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THE RELATIONSHIP BETWEEN SOCIAL NETWORKS AND TURNOVER AMONG ENLISTED AVIATION MAINTENANCE PERSONNEL AT NAVAL AIR STATION LEMOORE: AN EXPLORATORY STUDY

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THESIS

THE RELATIONSHIP BETWEEN SOCIAL NETWORKS AND TURNOVER AMONG ENLISTED AVIATION MAINTENANCE PERSONNEL AT NAVAL AIR STATION LEMOORE: AN EXPLORATORY STUDY

by

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Attraction and retention of qualified personnel, especially to less-than-desirable duty stations, is critical for mission success in the military. Social relationships, both on-the-job and off-the-job, play an important role in affecting the assignment and reassignment decisions of enlisted Sailors. This research examined social networks of enlisted aviation maintenance personnel at Naval Air Station (NAS) Lemoore using a job embeddedness model that measured number of links, organization/community fit, and perceived professional/personal costs of leaving. Survey and qualitative focus group data were collected on-site at NAS Lemoore to build personal network (e.g., egonet) profiles. The findings suggest that Sailors with high levels of job embeddedness have strong levels of social support through a variety of local and non-local relationships both on-the-job and off-the-job. Conversely, Sailors with low levels of job embeddedness who desire to leave NAS Lemoore indicated a lack of social support from local and non-local relationships. This research is one of the first studies that applies social network analysis to job embeddedness theory, suggesting strong consideration be given to the uniqueness of each Sailor's social network and how it impacts individual turnover decisions.

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ABSTRACT

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LIST OF ACRONYMS AND ABBREVIATIONS

CNO	Chief of Naval Operations
CNP	Chief of Naval Personnel
IRB	Institutional Review Board
ID	Identification
MWR	Morale, Welfare, and Recreation
NAS	Naval Air Station
NLDF	Navy Leader Development Framework
NPC	Navy Personnel Command
NPS	Naval Postgraduate School
NRP	Naval Research Program
OPNAV	Office of the Chief of Naval Operations
POS	Perceived Organizational Support
PSS	Perceived Supervisor Support

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I. INTRODUCTION

A. PROBLEM STATEMENT

The United States Navy continuously strives for effective talent management of its enlisted population to attract and retain the best-qualified personnel. Retention of qualified personnel is vital for present and future success. The Chief of Naval Personnel (CNP) Commander's Intent states that "people are our Navy's most important warfighting resource and our policies and actions should reflect and support this" (2019, p.1). Additionally, Sailor 2025 Initiatives state that "attracting and retaining the best Sailors in an increasingly competitive talent market requires continued flexibility and transparency in policies and practices" (Sailor 2025 Glossy, 2019, p. 1).

Over the last few years, the United States Navy has instituted several talent management policy changes emphasizing the importance of Sailor retention. Looking beyond the Sailor as an isolated individual making independent decisions, current talent management initiatives recognize the critical significance a Sailor's family has, especially in the making of career and retention-related decisions. Most recently, in August 2019, the Chief of Naval Operations (CNO) Family Framework clearly highlights the critical role families play in building Sailors noting "we recruit a Sailor, but we retain a family" (2019, p. 1). Family connections are an extension of our Sailors and provide stability for their sense of connectedness and belonging (CNO Family Framework, 2019). Strong families ensure a strong fleet and are vital to United States Navy readiness (CNO Family Framework, 2019).

Social relationships, or networks, extend beyond a Sailor and his or her immediate family, however. Policies aimed at improving retention of qualified personnel must carefully examine the importance of social connections both on-the-job (e.g., organization) and off-the-job (e.g., community) for Sailor and family, not just the connections between a Sailor and his or her family (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). Families provide connections that in turn foster new relationships with new individuals, new experiences, and new insights (CNO Family Framework, 2019).

The May 2019 Navy Leader Development Framework (NLDF) updates the leadership development path by adding a third lane, connections. This lane involves the development of intellectual (e.g., sharing mental models, comparing notes, and anticipating teammates' next moves) and personal connections (e.g., building relationships that strengthen character and resilience) (CNO's NLDF 3.0, 2019). Social connections, to include social support, are essential to achieving the highest levels of significance and include families, friends, churches, health clubs, and other communities (CNO's NLDF 3.0, 2019). The NLDF's modern talent management approach demonstrates there is value to be gained by better understanding the importance of social connections in a Sailor's network.

B. SOCIAL RELATIONSHIPS, JOB EMBEDDEDNESS, AND VOLUNTARY TURNOVER

Because people are the Navy's leading strategic asset, it is essential to attract and retain quality Sailors. Retaining Sailors beyond their first assignment is particularly challenging in locations such as Naval Air Station (NAS) Lemoore. Several factors, including the remote location, lack of base and nearby amenities, and parking and inter-connected transit deficiencies contribute to the perception of NAS Lemoore as a less-than-desirable duty station.

Gaining insight into why people stay with an organization is key for development of retention policies. Job embeddedness theory focuses on what factors contribute to a person staying on the job and encompasses "organizational (i.e., on-the-job) and community (i.e., off-the-job)" aspects that influence employee retention (Lee, Burch, & Mitchell, 2014, p. 203). Individuals do not make decisions alone; decisions are made interdependently (Hatala, 2006). According to Jo and Ellingson, an individual's social connections with others has a significant influence on their decision to stay with an organization (2019). Understanding what on-the-job and off-the-job factors embed individuals in an organization and what types of social connections make people stay, are critical to understanding retention among enlisted Sailors.

Traditionally, the United States Navy has focused on monetary rewards to improve retention (Watson, 2012; Makarenko, 2014; Freeman & Zerler, 2016). However, research measuring the effect of monetary vs. non-monetary rewards suggests that non-monetary incentives play a key role in predicting retention. In Browning and Burr's 2009 study, non-monetary rewards included choice of homeport, geographic stability, and sabbatical. Another 2009 study conducted by Stitt explored non-monetary incentives that included choice of homeport, billet, and platform and geographic stability. In each thesis cited, monetary rewards alone were shown to be ineffective for improving retention.

C. SPONSORSHIP

One of the ways the military conveys importance to a topic or project is through sponsorship and funding. This thesis is sponsored by the Office of the Chief of Naval Operations (OPNAV) 132, Force Shaping Plans and Policy, and is a funded Naval Research Program (NRP) study. OPNAV 132 requested assistance with understanding how social networks impact turnover within the enlisted community.

Naval Postgraduate School (NPS) faculty partnered with NAS Lemoore leadership to explore the impact of social relationships on voluntary turnover for enlisted aviation maintenance personnel currently assigned to NAS Lemoore.

D. RESEARCH QUESTIONS

Decisions to remain with or leave an organization are made interdependently and are influenced by the important people in a Sailor's life. A better understanding of how social connections both on-the-job and off-the-job influence turnover decisions is critical for talent management policy development. This research addresses the following questions regarding the relationship between social networks and turnover of enlisted aviation maintenance personnel at NAS Lemoore:

Primary question:

- How are social networks related to enlisted aviation maintenance members' decision to be assigned or reassigned to NAS Lemoore?

Secondary question:

- How do elements of job embeddedness (links, fit, and sacrifice) impact aviation maintenance personnel's decision for reassignment to NAS Lemoore?

E. SCOPE AND METHODOLOGY

Participants included active duty enlisted aviation maintenance personnel, active duty prior-enlisted aviation maintenance personnel, and active duty enlisted personnel who support aviation maintenance personnel all currently assigned to NAS Lemoore.

This thesis employed a dual-pronged approach to better frame the retention challenges of NAS Lemoore by gaining insight into how social relationships impact reassignment decisions of enlisted aviation maintenance personnel at NAS Lemoore. Focus groups, to include pre-focus group questionnaires, were conducted on-site at NAS Lemoore to answer the research questions. From verbatim transcripts, the content was analyzed to develop themes. Then, data were used to develop egonets for each of the study participants. Blending the job embeddedness model with a social network approach (e.g. egocentric network analysis) allowed for a more robust analysis of the data.

F. THESIS ORGANIZATION

Chapter II reviews literature and research involving voluntary turnover, the job embeddedness model, social relationships and social support, and provides implications for NAS Lemoore. Chapter III provides a description of social network theory to include social network analysis and egocentric network analysis. Additionally, the detailed procedures for data collection and data analysis are discussed. Chapter IV explains the job embeddedness model for NAS Lemoore and provides egocentric network analysis results to include personal network diagrams. Finally, Chapter V offers a summary, conclusion, recommendations, and future research.

II. LITERATURE REVIEW

A. INTRODUCTION

Theoretical models aiming to explain and predict turnover spans across several decades (Griffeth, Hom, & Gaertner, 2000; Heavey, Holwerda, & Hausknecht, 2013). Early turnover models built foundations around job satisfaction and job alternatives (Griffeth et al., 2000; Heavey et al., 2013). Researchers started to take an individual-level approach by focusing on individual attributes and job-related factors, exploring causes of job satisfaction (Holtom, Mitchell, Lee, & Eberly, 2008). Research grew to include organizational environment variables and elements of person-organization fit (Holtom et al., 2008). Recognizing that employee turnover is a complex and dynamic process, research evolved to include the "amount of psychological analysis that precedes a decision to quit and the act of quitting" (Lee, Mitchell, Wise, & Fireman, 1996, p. 6). The most recent developments explored relational constructs to include social networks (Holtom et al., 2008; Jo & Ellingson, 2019). While past contributors have furthered turnover theory, there is still much more to explore.

This thesis expands the definition of turnover (e.g., employee departure of an organization) to include the assessment of factors that influence follow-on tour assignment to a different command within the same base.

Chapter II discusses the progression of turnover literature, the importance of turnover research, and how this thesis contributes to the current turnover research. Specifically, job embeddedness theory is examined through a social perspective lens. Finally, insight into how social relationships, social support, and socialization tactics fit into job embeddedness are discussed.

B. TURNOVER—PAST, PRESENT, AND FUTURE

1. Turnover, Voluntary Turnover, and Intentions to Turnover

Turnover, in the most general form, is the break in employment between an employee and an organization. Human capital is critical to an organization's competitive

advantage, regardless of industry. “Turnover has long been a focus of organizational researchers because of the high costs of recruitment and selection to replace employees who have left the organization” (Huffman, Casper, & Payne, 2013, p. 194). Additional organizational costs of employee turnover include lost resident knowledge, decrease in morale, disruption to social and communication networks, and reduced organizational performance (Huffman et al., 2013).

“Exits from an organization may be voluntary (e.g., quits) or involuntary (e.g. firings)” (Lucas, 2008, p. 6). Voluntary turnover is “departure from an organization despite having an opportunity to remain” (Mossholder, Settoon, & Henagan, 2005, p. 608). In addition to being costly to an organization, voluntary turnover is also costly for employees as individuals spend significant time and energy when considering leaving a job (Holtom et al., 2008). Minimizing voluntary turnover, or retaining qualified employees, is critical to organizational success.

Voluntary turnover is synonymous with intentions to turnover. Turnover intentions are defined as the conscious, recurring plans to leave an organization which trigger a cognitive evaluation process of on-the-job and off-the-job factors in the surrounding environment coupled with searching for an alternative job, ultimately resulting in a decision to leave (Fazio, Gong, Sims, & Yurova, 2017; Satardien, Jano, & Maembe, 2019). A meta-analysis review conducted by Griffeth et al. indicates that intentions to leave “were shown to be among the best predictors of turnover” (2000, p. 483). Most turnover research considers turnover intention as a leading indicator of turnover behavior (Fazio et al., 2017). The topic of voluntary turnover, or turnover intentions, spans across multiple disciplines and conceptually connects employee behaviors to critical measures of success for organizations, such as actual turnover (Holtom et al., 2008).

2. Progression of Turnover Research

A vast majority of turnover research stems from the turnover models by March and Simon (1958) that evaluated two factors balancing individual and organization contributions, “perceived desirability and perceived ease of leaving the organization” (Holtom et al., 2008, p. 237). Several studies since then “confirm that perceived

desirability, often measured as job satisfaction…is negatively associated with turnover" and "ease of movement variables…also predict turnover" (Mossholder et al., 2005, p. 607). Literature reviews reported "a constant negative relationship" between job satisfaction and turnover; however, "while the reported correlations have been consistent and significant, they have not been especially high" (Mobley, 1977, p. 237). Recognizing that additional variables contribute to employee turnover, Mobely's research shifted the attention to the withdrawal process employees go through when leaving an organization (Holtom et al., 2008). This turnover model suggests that the decision to leave an organization does not happen impulsively, rather there is a decision-making process encompassing on and off-the-job factors (Mobely, 1977; Soltis, Agneessens, Sasovova, & Labianca, 2013).

Further expansion of turnover theory included Price and Mueller's (1981) work on antecedents of job satisfaction, such as job-specific characteristics, instrumental communication, and integration, and intent to stay, such as professionalism, training, and kinship responsibility, mediated by organizational commitment variables (1981; Holtom et al., 2008). Further deepening the complex components of organizational commitment, Reichers suggests psychological attachments to organizational constituencies, such as coworkers, supervisors, and mentors, are stronger than overall commitment to the organization (Maertz & Campion, 1998).

By the late 1980s and early 1990s, studies of employee turnover began to encompass "more complex organizational and group level concepts such as organizational culture, group cohesion, organizational reward systems, gender composition, and demography" (Holtom et al., 2008, p. 240). Studies also "incorporated an increased number of variables that consider employees' relationships with their environment (e.g., with the organization, supervisor, coworkers, etc.)" (Holtom et al., 2008, pp. 240-242). During this time, consideration for employees' relationships (e.g., networks) within the work environment expanded turnover variables to include person-organization fit and mentoring (Holtom et al., 2008). McPherson, Popielarz, and Drobnic's (1992) work introduced "a social network perspective" to turnover research that evaluated organizational network joining rates, shared network memberships, and strong and weak ties and found that "individuals with more ties within an organization's social network were less likely to turn

over" (Holtom et al., 2008, p. 242). The "unfolding model of voluntary employee turnover" explores a wide spectrum of quitting behaviors, some of which contradict early attitude and perceived alternative turnover models, that encompass the notion of shocks (e.g., positive, neutral, or negative environmental events) identifying five decision paths individuals may follow prior to leaving an organization (Lee et al., 1996, p. 6).

Up to this point, the focus on voluntary turnover has been on why employees leave an organization. Despite the progression of turnover research, the relative predictive power of these models is low. In 2001, "a shift in turnover theorizing away from why employees leave and toward better understanding why they stay" resulted in the job embeddedness model (Allen, Rubenstein, & Peltokorpi, 2016, p. 1671). The reasons people leave are not simply the reciprocal of why people stay; rather, the process for staying with an organization involves a series of pushing and pulling factors (Allen et al., 2016). Job embeddedness theory "consists of three on- and off-the-job dimensions—links, fit, and sacrifice—which operate as causal indicators on one's aggregate level of embeddedness" (Allen et al., 2016, p. 1672). According to Lee et al., dimensions of job embeddedness "hold a meaningful role in understanding voluntary employee turnover" and research shows that "job embeddedness is a predictively valid construct" (2014, p. 203).

Another aspect of job embeddedness includes how socialization tactics of an organization facilitate embeddedness of new employees (Holtom et al., 2008). Allen's (2006) turnover research "found that an organization's socialization tactics enable the organization to actively embed new employees" (Holtem et al., 2008, p. 252). Additional developments using a relational perspective (e.g., social network analysis) "found sufficient theoretical and empirical support for associating the following relational variables with turnover: network centrality, perceived coworker support, felt obligation toward coworkers, and interpersonal citizenship behavior" (Mossholder et al., 2005, p. 608).

Voluntary turnover continues to be a challenging puzzle for organizations and researchers alike. Several aspects of turnover research require future exploration. This thesis contributes to the current literature by combining social network theory with a modified job embeddedness model to better understand voluntary turnover of enlisted

aviation maintenance personnel at NAS Lemoore. Additionally, relational factors such as social support and socialization tactics are explored.

C. JOB EMBEDDEDNESS THEORY

Job embeddedness theory focuses on the reasons why individuals stay with an organization, as opposed to prior turnover literature that evaluated employees' reasons for leaving. Born out of embedded figures and field theory research, job embeddedness is centrally focused on the aggregate level of embeddedness and not on specific elements of embeddedness (Mitchell et al., 2001; Lee et al., 2014). In the field of psychology, images, or embedded figures, immersed in one's background eventually become part of the environment space, similar to field theory where an individual's connections contribute to the different aspects of their life (Mitchell et al., 2001; Lee et al., 2014). In this context, job embeddedness can be imagined as "a net or web in which an individual can become stuck," although one can be embedded in several different ways (Lee et al., 2014, p. 201). Research by Mitchell and colleagues "have demonstrated that job embeddedness predicts variance in voluntary turnover over and above job satisfaction" (Holtom & Inderrieden, 2006, p. 439).

According to Mitchell et al. (2001):

> The critical aspects of job embeddedness are (1) the extent to which people have links to other people or activities, (2) the extent to which their jobs and communities are similar to or fit with the other aspects in their life spaces, and, (3) the ease with which links can be broken—what they would give up if they left, especially if they had to physically move to other cities or homes. We labeled these three dimensions "links," "fit," and "sacrifice," and they are important both on and off the job. (p. 1104)

1. Links to Organization and Community

Links are the "formal or informal connections between a person and institutions or other people" (Mitchell et al., 2001, p. 1104). People and their families are embedded "in a social, psychological, and financial web that includes work and nonwork friends, groups and the community and the physical environment in which he or she lives" (Mitchell et al., 2001, p. 1104). A "higher number of links between the person and the web" indicates stronger job embeddedness (Mitchell et al., 2001, p. 1104). Organizational links include

supervisors, mentors, and coworkers. Community links include friends, family, similar hobby enthusiasts, and religious connections.

2. Fit to Organization and Community

Fit is defined as "an employee's perceived compatibility or comfort with an organization and with his or her environment" (Mitchell et al., 2001, p. 1104). For instance, high levels of fit are associated with "believing one's values, skills, and preferences match with their work and community" (Allen et al., 2016, p. 1672). In addition, a person must assess their fit with the local community and physical environment (Mitchell et al., 2001). Better fits to the organization and community likely result in stronger personal and professional commitment to the organization, influencing intentions to stay (Mitchell et al., 2001; Holtom & Inderrieden, 2006). Organizational fit aspects include work-life balance, work-scheduling practices, career training, pay and benefits, promotion opportunities, and the general work environment. Community fit elements include location-specific items such as amenities, weather, climate, proximity to attractions and events, and ease of travel.

3. Organizational- and Community-Related Sacrifice

Sacrifice encompasses the perceived personal and professional costs that result from leaving a job, such as colleagues, benefits, work projects, perks, hobby-related roles, church, and local friends (Mitchell et al., 2001; Holtom & Inderrieden, 2006). The more embedded an individual is, the higher the expected sacrifice when considering leaving a job. Organizational-related sacrifices include tenure, pensions, perks, job stability, and benefits. Community-related sacrifices include participation in hobbies and volunteer organizations, church, daycare and education institutions, commute, homeownership, and safety and security.

D. INTEGRATING JOB EMBEDDEDNESS AND SOCIAL SUPPORT TO BETTER UNDERSTAND VOLUNTARY TURNOVER

1. Social Relationships and Social Support

When broadening voluntary turnover research to include a relational perspective, it is evident that "social relationships play a central role in an employee's decision to stay or

leave" an organization (Jo & Ellingson, 2019, p. 248). Job embeddedness research shows that "employees with many 'links' to others in the organization or the community will feel 'stuck' in the organization and be hard-pressed to leave, as doing so requires breaking or undermining valued relationships" (Jo & Ellingson, 2019, p. 252). A high number of work connections gives employees access to "valued resources" (Jo & Ellingson, 2019, p. 252). Research using social network analysis to explore the characteristics of teachers' social networks and their impact on decisions to stay in certain locations concluded that organizational social relationships play an important role in turnover intentions (Baker-Doyle, 2010).

Social relationships are defined as "the way in which people are intermittently but continuously allied either formally or informally for an extended period of time" (Jo & Ellingson, 2019, p. 251). Additionally, social relationships

- must be meaningful and occur repeatedly;
- include on-the-job and off-the-job connections;
- exist one-on-one and within groups;
- and involve multiple connections to multiple networks simultaneously (Jo & Ellingson, 2019).

According to Lucas, Cobb (1976) identifies social support as the information leading people to feel "cared for and loved," feel "esteemed and valued," and to make people feel that they "belong to networks of communication and mutual obligation" (2008, p. 3). Social support can be thought of as the relationships people rely on when they need assistance. Sources of social support span across the organization and community to include friends, family, church members, coworkers, supervisors, and mentors. Researchers further break down social support into four forms: emotional (e.g., affective concern), appraisal (e.g., affirmation), informational (e.g., suggestions), and instrumental (e.g., environmental modification for task completion assistance) (Lucas, 2008). Building on social support research, development of various elements includes perceived social

support (e.g., expressive emotional support), structural support (e.g., number of ties in a network), and social embeddedness (e.g., connections with others) (Lucas, 2008).

2. Perceived Social Support and Voluntary Turnover

Several studies conclude that social support is "a significant predictor of turnover intention," especially when compared to job-specific motivational aspects such as "autonomy, skill variety, task significance, task identity, and feedback" (Jo & Ellingson, 2019, p. 248). In addition, collective research indicates that "feeling attached to others at work, such as supervisors or coworkers, is more predictive of turnover than other factors that generate a sense of attachment to a job" (Jo & Ellingson, 2019, p. 248). The perception of social support and structural support are key concepts in understanding why people stay with an organization.

There are two types of organizational social support relating to voluntary turnover. Perceived organizational support (POS) is defined as an employee's perception of "the extent to which the organization values their contributions and cares about their well-being" (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002, p. 565; Fazio et al., 2016, p. 512). POS encompasses organizational support theory, social exchange theory, and reciprocity (Eisenberger et al., 2002; Satardien et al., 2019). Organizational support theory suggests employees seek to match received organizational support with increased work efforts; social exchange theory provides that the more organizational support received, the stronger the inclination to return the favor; and, the norm of reciprocity holds that individuals help those who help them and that individuals do not harm those who help them (Satardien et al., 2019).

Perceived supervisor support (PSS) is defined as "the employee's belief about how much the supervisor values their work and cares about their well-being" (Fazio et al., 2016, p. 512). PSS and POS are related but share some differences. PSS is a component of POS "because supervisors act as agents of the organization;" however, employees may separate supervisors and the organization contributing a supervisor's efforts independently to turnover intentions (Eisenberger et al., 2002, p. 565). Eisenberger et al. note that the supervisor's status should be considered here because support from a strongly-aligned

supervisor (e.g., embodies organization's ethos) is more closely related to an extension of organizational support than compared to a supervisor who an employee does not consider a well-represented member of the organization (2002).

3. Structural Support and Voluntary Turnover

Structural support refers to the number of ties, or connections, in a person's life space. Research involving structural features of social relationships, both on-the-job and off-the-job, on voluntary turnover are mixed. Organizational ties include supervisors, coworkers, and mentors. Mossholder et al. found that "both network centrality and interpersonal citizenship behavior were significantly related to turnover" (2005, p. 613). Deeper job embeddedness and reduced turnover occurs when employees have "more connections with others who come to them for advice" (Jo & Ellingson, 2019, p. 260). Additional research by Feeley, Hwang, and Barnett (2008) "found no evidence that having more professional ties reduces turnover" (Jo & Ellingson, 2019, p. 260). Feeley and Barnett found that "employees located on the periphery of the communication network are more likely to leave their position" (1997, p. 374).

Community-related ties include friends, family, fellow hobby supporters and religious connections. While one study showed the number of outgoing friendship ties was related to reduced turnover, another study failed to find evidence of a connection between reduced turnover and friendship ties (Jo & Ellingson, 2019). Although the correlations were small, Mitchell et al., did find that links to the organization and links to the community were negatively related to turnover intentions (2001).

4. Social Embeddedness and Voluntary Turnover

Traditional turnover research focused on attitudes and demographic characteristics lacks the influences of the social structures that embed employees (Soltis et al., 2013). Individuals make decisions interdependently; these decisions are influenced by the surrounding web of organization and community connections. "The desire for positive social relationships is one of the most fundamental and universal of human needs," and this is especially true of newcomers to an organization and community (Allen & Shanock, 2013, p. 351). The importance of social relationships and social support within each of the

job embeddedness elements contributes to the notion of aggregate embeddedness and its effect on turnover intentions. In terms of voluntary turnover, there is much insight to be gained by combining elements of social support with elements of job embeddedness.

a. Organization (e.g., On-the-Job)

Relational aspects exist for each of the job embeddedness elements within the organizational context. Links to the organization are the connections with coworkers, supervisors, and mentors. Organizational fit assesses the extent to which the organization and work meet the needs and desires of an individual, although feelings towards coworkers, supervisors, and mentors can be included here. Organizational-related sacrifice involves all the work-related elements an employee gives up upon leaving, which may also include relationships built on-the-job. POS and PSS contribute to each of these elements in that the number and quality of links present in the organization, the perceived fit with organizational practices (e.g., promotions, job selection), and the combined sacrifices accumulated over time (e.g., tenure, work experience, respect) all influence turnover intentions.

Existing studies on social support and voluntary turnover indicate that “employees who feel supported by their organizations rarely think of quitting their organizations” (Satardien et al., 2019, p. 3). High POS is indicative of an employee who believes “their organization treats them fairly and cares about their personal and career needs” (Fazio et al., 2017, p. 515). Beyond the economic rewards, employees with high POS become more embedded due to alignment in their identity, gains in psychological benefits, and trusting relationships (Fazio et al., 2017). Employees who seek out advice from coworkers who are not mandated to give it generally perceive higher social support and are less likely to turnover (Soltis et al., 2013). In addition, high PSS can be telling of a highly engaged supervisor with strong commitment to the organization (Fazio et al., 2017). The relational bond between employee and supervisor is strong, contributing to a low likelihood of voluntary turnover.

b. Community (e.g., Off-the-Job)

Similar to on-the-job, off-the-job aspects of job embeddedness are heavily relational. Links to the community include family and friends, connections with churches, and neighbors. Community-fit is assessed by the extent to which the surrounding environment, weather, climate, amenities, proximity to events, commute time, and local politics fit with the employee. Community-related sacrifice includes relationships built, general prestige established among the community, daycare and educational institutions, and homeownership that may be lost when leaving a job. Established rapport with each of these community networks provides social support through feelings of security and stability.

Research indicates that "employees who develop a felt obligation to stay because of strong reciprocal relationships with others within the workplace and outside the workplace are less likely to turnover" (Jo & Ellingson, 2019, p. 265). Additional research exploring the conflict between work and family indicates that lower work-life conflict is related to decreased turnover intentions (Jo & Ellingson, 2019). Interestingly, family member obligation is a more consistent predictor of turnover than obligations toward organizational members (Jo & Ellingson, 2019). Off-the-job embeddedness includes family and community elements. Taken independently, these elements may have opposing effects. According to Mitchell et al., community embeddedness reduces turnover; however, employees may leave jobs without physically relocating. Strong obligations to family where work-family conflict is high may motivate decisions to leave (Jo & Ellingson, 2019). Additionally, focus on the nuclear family (e.g., spouse and children) alone restricts implications for non-traditional families such as single parents, couples without children, and single members who rely heavily on friendships (Gonzalez, Ragins, Ehrhardt, & Singh, 2018).

5. Job Embeddedness and Social Support Implications for NAS Lemoore

Literature relating job embeddedness and social support to the active duty military organization is limited. Exploratory items for NAS Lemoore include general personality

traits of public-sector workers, gender, and relocation requirements. A meta-analysis of job embeddedness found that on-the-job embeddedness more strongly predicted turnover intentions in public organizations when compared to private organizations, while the results for off-the-job embeddedness were not significant (Jiang, Liu, McKay, Lee, & Mitchell, 2012). Public organizations, to include the military, foster job embeddedness through a sense of security and stability; additionally, workers in public organizations generally place intrinsic motivation (e.g., interesting job characteristics and patriotism) above extrinsic motivation (e.g., pay and promotion) (Jiang et al., 2012).

Social role theory suggests that "men and women develop and exhibit different attributes and social behaviors in conformance with their expected gender roles;" men focusing more on standing out while women focus more on fitting in (Jiang et al., 2012, p. 1079). Similarly, a meta-analysis of job embeddedness found that on-the-job embeddedness was highly predictive for females when compared to males, with off-the-job embeddedness revealing little influence (Jiang et al., 2012). Females may experience lower on-the-job embeddedness due to breaks in employment stemming from family obligations (Heavey et al., 2013).

Requirements to relocate are part of the job for service members. Military members may perceive community sacrifice differently considering the known relocation requirements. One study involving enlisted Air Force personnel revealed that organizational embeddedness reduces the likelihood of separating or retiring from service, but community embeddedness increases the likelihood of departure (Lee et al., 2014). Service members close to retirement or members in preferred geographical locations may be more likely to embed themselves in the community pre-turnover. Although still important, there are noted limitations with community embeddedness considering the nature of military work involves relocation.

Along with relocation requirements, service members also face the challenges associated with less-than-desirable duty stations. Mitchell et al., suggests that it is the aggregated embeddedness that predicts turnover intentions (2001). It is highly probable that service members have grand affiliations for the Navy overall but strongly oppose their specific duty station. NAS Lemoore is considered a less-than-desirable duty station, mainly

due to its location in Lemoore, California. There are several considerations for the complexity of on-the-job and off-the-job embeddedness factors when service members are considering taking an assignment or staying at the same base for a follow-on assignment in a less-than-desirable duty station, such as NAS Lemoore.

E. SUMMARY

Voluntary turnover research continues to develop, widening and broadening the knowledge of relational influences an employee's decision to stay with an organization (Jo & Ellingson, 2019). Job embeddedness theory, a strong predictor of turnover intentions and subsequently actual turnover, explores the influences that occur both on-the-job and off-the-job (Mitchell et al., 2001). A deeper understanding of the importance of social relationships is uncovered when social support theory is applied to the elements of job embeddedness. Research using job embeddedness and social support in a military application is limited. This thesis combines job embeddedness theory and social support elements using a relational perspective to better understand voluntary turnover at NAS Lemoore.

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III. RESEARCH METHODOLOGY

A. INTRODUCTION

The purpose of this thesis is to gain insight into how social relationships impact assignment and reassignment decisions of enlisted aviation maintenance personnel at NAS Lemoore. This chapter details the method that was used to answer the research questions. Chapter III describes the basic concepts behind social network analysis and the egocentric network approach (e.g., a methodology that best measures and evaluates egocentric network connections). This chapter also details the procedures for data collection at NAS Lemoore as well as the qualitative thematic analysis, the analysis of the egonets, and the development of the measures for job embeddedness links, fit and sacrifice.

B. SOCIAL NETWORK THEORY

In the 1930s, social network theory emerged across fields of psychology, anthropology, and mathematics creating methods, measurement concepts, and theories of social structures (Hatala, 2006). Social and behavioral researchers began to explore structural networks within social environments. According to Wasserman and Faust, "the social environment can be expressed as patterns or regularities in relationships among interacting units" (1994, p. 3). The social network analysis approach defines these structural elements; and according to Wasserman and Faust, "these methods translate core concepts in social and behavioral theories into formal definitions expressed in relational terms" (1994, p. 21).

C. SOCIAL NETWORK ANALYSIS

A social network analysis perspective assumes the importance of relationships between individuals and embodies a relational approach to theories, models, and applications (Wasserman & Faust, 1994). A combination of network and relational perspective helps explain organizational outcomes, such as voluntary turnover, that are not easily understood through traditional approaches focusing on individual attributes

(Hollenbeck & Jamieson, 2015). Social network analysis offers potential for deeper and richer understanding of relationships that impact turnover intentions.

a. Key concepts

Key concepts of social network analysis include actors, relational ties, dyads, subgroups, groups, and social network. An "actor" is a discrete individual, group, or sets of groups (e.g., Sailor, squadron, air wing) (Wasserman & Faust, 1994; Hatala, 2006; Hollenbeck & Jamieson, 2015, Robins, 2015). "Relational ties" are the links present between actors (e.g., expressed friendship, transactional or business, associations, affiliations, behavioral and communication, biological or kinship, and professional or formal) (Wasserman & Faust, 1994; Hollenbeck & Jamieson, 2015). A "dyad" is a unit of analysis measuring the linkage or relationship between two actors and evaluates properties of the relationship to include reciprocity, frequency, and content (Wasserman & Faust, 1994; Hollenbeck & Jamieson, 2015). A "subgroup" is a subset of actors sharing specific criteria to include their ties (e.g., demographics) and a "group" is the finite set of all actors and included ties in each system (Wasserman & Faust, 1994). Finally, a "social network" is a system composed of a set of actors (e.g., individuals or organizations) and a set of relational ties between these actors (e.g., friendship, work colleagues, family members) (Wasserman & Faust, 1994).

b. Social network data, boundary specification, and sampling

Two common variables are used in a social network data set. "Structural" variables measure specific types of ties between a pair of actors (e.g., friendship, mentorship, kinship) and "composition" variables measure actor attributes at the individual level (e.g., gender, marital status, hometown) (Wasserman & Faust, 1994). "Sociograms" are visual representations of the social relationships within a network (Hatala, 2006).

Defining the research boundary for social network analysis includes identifying the relevant actors in a population. There are two approaches for defining network boundaries, a "realist" approach where actor attributes or affiliations define the boundary, and a "nominalist" approach where the researcher defines the boundary based on needs specific to their research (Wasserman & Faust, 1994).

When it is not feasible to take a measurement on all relevant actors in a population, a sample of relevant actors are taken. There are several approaches for choosing which actors to include in a sample. “Attribute-based” selections take a “positional approach” using the presence or absence of an individual attribute or a “reputational approach” using judgements of reputable members (Wasserman & Faust, 1994). “Relationship-based” sampling chooses actors based on their participation in specific social relationships and “event-based” sampling chooses actors based on their participation events or activities (Wasserman & Faust, 1994). The size of the selected sample depends on the type of research being conducted. In the case of exploratory research using grounded theories, 20 to 30 participants are recommended (Saunders & Townsend, 2016). Transparency of data collection methods within available time and resources are encouraged to justify enough depth of research purpose and sufficient breadth of participant responses (Saunders & Townsend, 2016).

1. Egocentric Network Approach

“An ego-centered, or local, network consists of a focal person or respondent (ego), a set of alters who have ties to ego, and measurements on the ties from ego to alters” (Wasserman & Faust, 1994, p. 53). Network ties based on strong relationships are considered “embedded ties” (Robins, 2015). Egocentric networks provide insight into an individual’s embeddedness in a social environment and for this reason, are often used in the study of social support (Wasserman & Faust, 1994). Egocentric network research analyzes the quality of an individual’s network and measures observable attributes between an ego and alters (Hatala, 2006).

2. Key Concepts

According to Hatala, “there are two basic forms of analysis to a SNA [social network analysis]—ego network analysis and complete network analysis” (2006, p. 51). A “complete network analysis is an attempt to obtain all the relationships among a set of respondents” (Hatala, 2006, p. 51). An “ego network analysis includes the relationships that exist from the point of a particular individual and can be determined through the use of a traditional survey” (Hatala, 2006, p. 51). “Egocentric networks stand in contrast to

complete networks which are based upon all of the links…in a predefined and bounded population" (Heath, Fuller, & Johnston, 2009, p. 648). This study uses the terms *ego network analysis* and *egocentric network analysis* interchangeably. Each egocentric network is comprised of multiple dyads, the ties between two actors; "ego" refers to the focal actor and "alter" refers to the other actor (Hollenbeck & Jamieson, 2015). The relational data obtained in egocentric networks is also called personal network data (Wasserman & Faust, 1994).

3. Egocentric Network Data, Measurement, and Data Collection

Egocentric network data consist of relational ties between a focal actor and alters. The unit of observation in these networks is the actor and the dyadic tie. Dyadic relationships are represented as binary measures, where the presence of a relationship is equal to "1" and the absence of a relationship is equal to "0" (Hatala, 2006). In addition, "density" is the measure of the proportion of ties that are present, offering insight into the type of social activity for the ego; the data are often depicted in histograms (Wasserman & Faust, 1994; Robins, 2015).

The collection of attributional characteristics of egos provides insight into commonalities and differences among the participants (e.g., years of service, gender, marital status, tenure at NAS Lemoore). Attributional data is represented using numerical codes that correspond to a master repository of responses. Similar to sociograms, an "egonet" is a visual representation of an individual's personal network (Robins, 2015).

When conducting egocentric network research, a mixed-methods approach that combines observable, mathematical data with qualitative, in-depth personal interviews generates a deeper understanding of information. Data collection techniques for egocentric network data include questionnaires, interviews, and focus groups. To learn more about an individual's personal network, surveys and questionnaires use name generator instruments in which participants are asked to provide information on members of their social network (Wasserman & Faust, 1994).

Some limitations to egocentric network data collection include the accuracy and incompleteness of participant responses, small sample sizes, willingness to participate by

members in the sample, and time and resource constraints (Hatala, 2006). Participants filling out name generator instruments may not include all pertinent ties, which impacts the egonet analysis. In addition, making sense of the broader connections that only a subset of the network offers is difficult.

D. STUDY SITE

NAS Lemoore, commissioned in 1961 and located in Lemoore, California, remains the Navy's newest, largest Master Jet Base and serves to support Strike Fighter Wing, United States Pacific Fleet, which serves to man, train, and equip west coast Strike Fighter squadrons (Naval Air Station Lemoore Installation Master Plan 2030 [Master Plan], 2014). Over the years, NAS Lemoore has become the home station for the F/A-18 Hornet Strike Fighter, the F/A-18E/F Super Hornet, and the F-35C Joint Strike Fighter (Master Plan, 2014). Since the last Installation Master Plan in 1992, the base experienced an increased number of assigned aircraft and additional mission support requirements, which also increased requirements for civilian and military personnel (Master Plan, 2014).

The latest Installation Master Plan identifies and addresses quality of life and mission capability deficiencies in order to ensure the base's ability to respond to anticipated future conditions (Master Plan, 2014). However, this Master Plan does not directly address the retention challenges of enlisted military personnel for NAS Lemoore.

E. PROCEDURES FOR FOCUS GROUPS

1. Focus Group Participants

Four focus group sessions were conducted on-site at NAS Lemoore by the student researcher and an NPS faculty member. Participants included active duty enlisted aviation maintenance personnel, active duty prior-enlisted aviation maintenance personnel, and active duty enlisted personnel who support aviation maintenance personnel all currently assigned to NAS Lemoore. Focus groups consisted of members on their first assignment to NAS Lemoore and members reassigned to NAS Lemoore. Focus group sessions included participants with a mixture of ratings, ranks, gender, and marital and dependent status. There was a total of 27 participants throughout the four focus group sessions. Table

1 provides detailed information on the number of participants for each focus group session. A description of enlisted ratings present among focus group participants is found in Appendix A.

Table 1. Distribution of Focus Group Participants

Focus Group Session	# of Males	# of Females	# Single with No Children	# Married	# with Children
1	5	0	2	2	3
2	2	3	2	3	3
3	1	0	0	1	1
4	12	4	8	7	8
Total:	**20**	**7**	**12**	**13**	**15**

Focus groups were conducted in an Air Operations Conference Room located in Building 1 on the Operational side of the base. NAS Lemoore contains an Administrative side and an Operations side, separated by one road about eight miles apart. The targeted participants work on the Operations side of base. The Operations side of base was chosen to alleviate travel burdens for participants and minimize disruption to normal operations.

To avoid potential participation obligation conflicts, recruitment of participants occurred through a recruitment flyer, located in Appendix B. Dissemination of this recruitment flyer occurred through the already-established communication protocols at NAS Lemoore (e.g., email, quarters). Participants were asked to sign up for focus group sessions using www.signupgenious.com, an online sign up platform. Members did not have to create an account to sign up but were asked to provide their name and email address. This method offered anonymity when signing up for focus group sessions. Participants were not required to sign up online; walk-ins were permitted.

2. Focus Group Protocol

Pre-focus group questionnaires and focus group questions were developed prior to conducting focus group sessions, as required by the NPS Institutional Review Board (IRB).

Pre-focus group questionnaires captured demographic information, asked ranking and Likert-scale questions, and requested social relationship information using a name generator approach. Focus group questions were open-ended so as not to lead or restrict any participant responses. Probing and follow-on questions varied between groups based on the initial responses and flow of the focus group. Protocol forms for the pre-focus group questionnaire and the focus group sessions are in Appendix C and D, respectively.

3. Focus Group Process

The student researcher and NPS faculty member set up the conference room by preparing a dry-erase board for participant responses and placing name tents and pens on the conference table. As participants arrived, they were welcomed, handed consent forms and pre-focus group questionnaires, and asked to select and write an alias on the name tents provided. Once all members in the session arrived, the doors were closed to offer privacy to participants.

To get started, the student researcher and NPS faculty member introduced themselves and provided an overview of the study. Permission was requested to audio record the focus group sessions. Members were asked not to share information discussed during the focus group after the session ended. Participants were asked to read and complete consent forms and the pre-focus group questionnaire prior to the start of the focus group.

Focus group sessions ranged between 30 minutes and one hour 20 minutes. Members were afforded approximately 10 to 15 minutes to complete the consent forms and pre-focus group questionnaires before they were collected by the student researcher and NPS faculty member at the beginning of the session. Prior to commencing the audio recording, members were instructed to use their chosen alias throughout the focus group session. The student researcher commenced the audio recording, completed the focus group questions, and concluded the audio recording for each of the sessions. At the conclusion of each focus group, participants were thanked for their time and participation in the study.

F. DATA ANALYSIS

1. Method

Personal networks, or egonets, were developed to demonstrate the level of embeddedness for each of the participants from NAS Lemoore. Each participant was evaluated according to the NAS Lemoore job embeddedness model created for this research (described in Chapter IV). Quantitative data from the pre-focus group questionnaire and qualitative data from the focus group participant responses were used to generate egonets for each of the 27 participants. A description of the data analysis process is described below.

a. Pre-focus Group Questionnaire

First, pre-focus group questionnaire data was entered into an electronic spreadsheet (i.e., Microsoft Excel). Each participant was assigned a unique numerical identifier, written on the top right corner of the corresponding questionnaire form. As data was transferred from the questionnaire to the electronic spreadsheet, questionnaires were reviewed for accuracy and completeness. Written responses requiring clarification were annotated both on the questionnaire and captured in a notes and assumptions tab of the electronic spreadsheet. This process ensured consistency among items requiring clarification (e.g., short-answer question response included "N/A" and "Neither Agree or Disagree" and "N/A" was used as response). Additionally, definitions for "local" and "hometown" were defined as "connections in NAS Lemoore, Lemoore, CA, or Hanford, CA" and "connections in same state as hometown or home of record indicated by participant," respectively.

Pre-focus group questionnaire data included demographic questions, one ranking question, five short-answer questions using a Likert-scale, and a social relationship name generator. Demographic data and ranking and Likert-scale questions were assigned numerical responses according to selected coded identifiers (i.e., 1 = single, 2 = married). A sample section of demographic data for six participants is shown in Figure 1. Coded identifiers were captured in a separate electronic spreadsheet tab (i.e., Codebook). The corresponding coded identifiers for the sample demographic data are shown in Figure 2.

Additionally, the coded identifiers for the Likert-scale responses of the short-answer questions are shown in Figure 3.

Participant ID	Total Years of Service (YOS)	Length of time stationed at NAS Lemoore (Years)	Marital Status	# of Dependent Children	Rate	Rank	Gender	Home of Record (HOR)/ Hometown (City)	Home of Record (HOR)/ Hometown (State)
013	1	1	1	1	13	1	1	10	8
014	1	1	1	1	13	1	2	11	10
015	3	3	1	1	3	1	1	12	4
016	1	1	1	1	6	1	2	13	6
017	2	2	1	2	6	2	1	12	4
018	1	1	2	3	13	1	2	14	11

Figure 1. Demographic Data Section Sample

Total Years of Service (YOS)	Length of time stationed at NAS Lemoore (Years)	Marital Status	# of Dependent Children	Rate	Rank	Gender	Home of Record (HOR)/ Hometown (City)	Home of Record (HOR)/ Hometown (State)
1 = >1	1 = >1	1 = Single	1 = none	1 = AC	1 = E1/E2/E3	1 = Male	1 = Redmond	1 = OR
2 = 1-2	2 = 1-2	2 = Married	2 = 1	2 = AD	2 = E4	2 = Female	2 = Belen	2 = TX
3 = 3-4	3 = 3-4		3 = 2	3 = AE	3 = E5		3 = Cooper City	3 = NM
4 = 5-6	4 = 5-6		4 = 3 or more	4 = AM	4 = E6		4 = Wenatchee	4 = FL
5 = 7-8	5 = 7-8			5 = AME	5 = E7		5 = Los Angeles	5 = WA
6 = 9-10	6 = 9-10			6 = AO	6 = E8		6 = Harlingen	6 = CA
7 = 11+	7 = 11+			7 = AS	7 = E9		7 = Attica	7 = AZ
				8 = AT	8 = O2		8 = San Diego	8 = NY
				9 = AZ	9 = O4		9 = Victoria	9 = NC
				10 = YN			10 = New York City	10 = CT
				11 = PR			11 = Hartford	11 = NV
				12 = LS			12 = Miami	12 = OH
				13 = AN			13 = Riverside	13 = IL
							14 = Las Vegas	14 = AR
							15 = Chicago	
							16 = Van Nuys	
							17 = Clinton	
							18 = Dallas	
							19 = Ventura	
							20 = Rodeo	

Figure 2. Demographic Data Section Codebook

Short-Answer Questions				
I feel that the social relationships I've built at NAS Lemoore contribute highly to my satisfaction here.	The tangible benefits (pay, health benefits, career advancement) are good for this job at NAS Lemoore.	The social relationships I've built during my time at NAS Lemoore would be difficult to lose.	My family members in Lemoore are supportive of my assignment to NAS Lemoore.	My family members outside of Lemoore are supportive of my assignment to NAS Lemoore.
1 = Strongly Agree	1 = Strongly Agree	1 = Strongly Agree	1 = Strongly Agree	1 = Strongly Agree
2 = Agree	2 = Agree	2 = Agree	2 = Agree	2 = Agree
3 = Neither Agree or Disagree	3 = Neither Agree or Disagree	3 = Neither Agree or Disagree	3 = Neither Agree or Disagree	3 = Neither Agree or Disagree
4 = Disagree	4 = Disagree	4 = Disagree	4 = Disagree	4 = Disagree
5 = Strongly Disagree	5 = Strongly Disagree	5 = Strongly Disagree	5 = Strongly Disagree	5 = Strongly Disagree
			6 = N/A	6 = N/A

Figure 3. Short-Answer Questions Codebook

The social relationship name generator asked participants to list their 10 to 20 most important work and personal relationships using only first names (Appendix C). The table included columns for the individual's first name, an indication of whether they were a work or personal relationship, their relationship type, and the location (city) of the named individual. Additionally, participants were asked to highlight the top five to 10 people they spend time with outside of work hours (e.g., starred ties).

Similar to the other sections of the questionnaire, data on the social relationship table was reviewed for accuracy and completeness. Relationship types were reviewed and categorized based on whether they were "friend," "spouse," "coworker," "family," "supervisor," "chaplain," or "mentor." Written responses requiring clarification were annotated on the table and captured in the notes and assumptions tab of the electronic spreadsheet (e.g., counting "peer" as "coworker" and counting "roommate" as "friend"). Then, ties were categorized based on whether they were "local," "hometown," or "other." The "home of record and/or hometown" response from the first page of the questionnaire was written on the upper right-hand corner of the social relationship table page of the questionnaire. Each tie's location (city) was compared to the individual's hometown response to determine the appropriate category.

Additionally, the total number of ties, the total number of starred ties, the total number of personal ties, the total number of work ties, the total number of local ties, and

the total number of hometown ties were calculated. Data from the social relationship table were transferred to an electronic spreadsheet based on the total number of ties present for the given category. A sample section of categorized relational data is shown in Figure 4.

Total # of ties	# of starred ties	# of personal ties	# of work ties	# of LOCAL ties	# of hometown ties	Friend	Spouse	Coworker	Family	Supervisor	Chaplain	Mentor	LOCAL Friends	LOCAL Coworkers
13	5	11	2	6	7	7	0	2	4	0	0	0	4	2
11	0	11	2	0	0	11	0	2	0	0	0	0	0	0
10	5	10	4	10	0	10	0	4	0	0	0	0	10	4
8	0	6	2	2	4	0	1	2	6	0	0	0	0	0
8	0	4	4	8	0	4	0	3	0	1	0	0	4	3
9	5	3	6	6	3	6	0	0	1	2	0	0	4	0

Figure 4. Categorized Relational Data Sample

b. Focus group sessions

Each of the focus group questions was matched to the appropriate job embeddedness category or categories. Organization and community fit elements included the following questions: “From whom and what did you hear about Lemoore before you arrived?” and “Since you arrived, how has your experience compared to what you heard?” Organization and community links elements included the following questions: “What new connections have you made since arriving here? Where and how were these connections made?” and “Who do you interact with outside of work? What kind of activities? Ways that you interact?” Additionally, organization and community fit and links elements included the following questions: “Who are the people you consider part of your support network?” and “If you indicated you have family here with you, what kinds of connections have they made here?” Lastly, organization and community sacrifice elements included the following questions: “Who and what would you consider if reassignment to NAS Lemoore was a possibility?” and “What connections do you value the most at NAS Lemoore? The least? Why?”

Audio recordings of the focus group sessions were transcribed verbatim using a Graduate School of Defense Management third-party vendor. The transcripts were

evaluated against the audio recording for accuracy and completeness. Any missing or inaccurate information was annotated on the printed transcript document.

Transcripts were analyzed in two ways. First, transcripts were evaluated according to job embeddedness category. Each of the six categories were assigned unique colors and text passages were highlighted with the corresponding color. Responses were aggregated according to focus group questions. Themes and insights were used to develop the construct of NAS Lemoore's job embeddedness model (described in Chapter IV).

Second, transcripts were used to obtain richer information about an individual's personal network. Participants were asked to list an alias to use during the focus group discussion. When evaluating individual participant data against the developed NAS Lemoore job embeddedness model, transcripts were then analyzed according to alias. This qualitative material was used for a more robust depiction of personal networks, or egonets, as they relate to job embeddedness categories of organization and community fit, links, and sacrifice.

c. Egonets

Lastly, egonets (e.g., personal network visualizations) were generated using the above mentioned quantitative and qualitative research data. The center circle node is marked according to the individual's assessment of organization and community fit (i.e., L = low, H = high). Each of the alters, or ties, are depicted by a colored circle connected to the center node by a line. Alter circles are colored according to their relationship-type (e.g., local coworkers, local friends, supervisor or mentor, all others). Additionally, the line connecting the alter to the center node demonstrates the level of sacrifice present for that tie (i.e., bolded line for high sacrifice, thin line for low sacrifice). An example egonet and accompanying egocentric network key is presented in Figure 5.

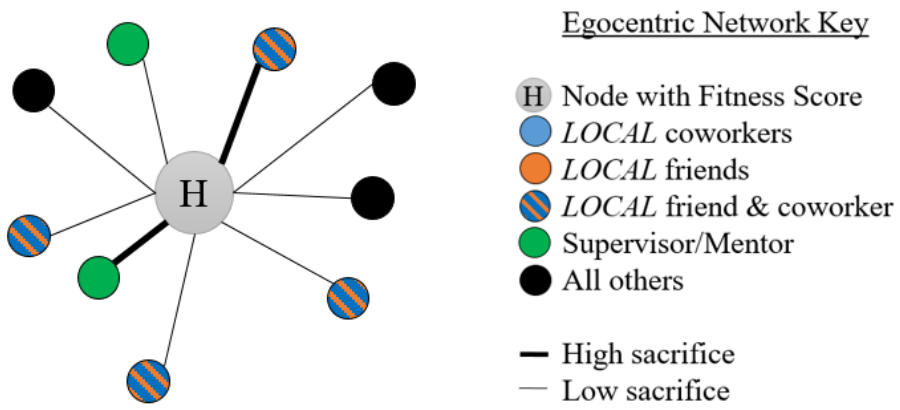

Figure 5. Sample Egonet

2. Measures

Specific measures were generated from the items in the pre-focus group questionnaire and focus group questions described earlier. These items were not originated using measures of prior job embeddedness studies, rather they were developed from theoretical conceptualizations of the elements of interest and adapted for this research.

The culture of the military is unique in that peers and coworkers are often also considered friends or family. The ways in which members communicate with other people in their network has evolved since many turnover studies. Members now can remain in contact with family, friends, and prior coworkers from basic training, rate-training programs, prior duty stations, or deployments through e-mail, text messages, phone or video calls, online games, and other communication applications. Additionally, military members understand that relocation and limited choice in orders selection, to include location, are part of the job. Due to the distinctive nature of the military profession, aspects of organization (e.g., on-the-job) and community (e.g., off-the-job) were combined. This study focused on each element of links, fit, and sacrifice for a blended organization and community aspect.

a. Ego Characteristics

For all participants, total years of service, length of time stationed at NAS Lemoore, marital status, current number of dependent children, rate, rank, gender, and home of record and/or hometown were captured. Simple, fill-in-the-blank questions and circled responses were used.

b. Job Embeddedness Element of Links

As described earlier, "links refer to one's formal or informal ties to institutions or other people (e.g., coworkers on one's work team; relatives or social groups in one's community)" (Allen et al., 2016, p. 1672). Structural support refers to the number of ties, or alters, in a person's life. Members become more embedded, or more integrated, given a higher number of links between that person and individuals within the organization and community (Mitchell et al., 2001). The number of ties present was measured by totaling the number of relationships listed on the social relationship table of the pre-focus group questionnaire.

Relational turnover research indicates that "social support was a significant predictor of turnover intention" (Jo & Ellingson, 2019, p. 248). Social support embodies the relationships people depend on when they need help. Sources of social support include organization links (e.g., supervisor, mentor, coworker) and community links (e.g., family, friends). Research is mixed when assessing the level of embeddedness given a specific relationship-type (e.g., family member, supervisor). This research extends the current literature to include a measure of the variety in a person's network.

The job embeddedness model focuses on the aggregated elements that make a person stay at their job. This research hypothesized that more variety in an individual's network is likely to contribute to a higher level of embeddedness. To test this hypothesis, a measure of the variety of links in a person's network is proposed. To measure the variety of links in a person's network, the presence of a specific relationship-type was binary-coded (i.e., not present =0, present =1).

c. Job Embeddedness Element of Fit

Organization and community fit "refers to one's perceived compatibility with their work and community (e.g., believing one's values, skills, and preferences match with what an organization requires or with what their community offers)" (Allen et al., 2016, p. 1672). Better fits to the organization and community result in higher personal and professional commitment to the organization, which reduce turnover intentions (Mitchell et al., 2001; Holtom & Inderrieden, 2006). Assessing the level of organization and community fit includes assessing the social support of the individual in addition to the social support of the family, if local family is present.

To measure the social support of the individual, participants rated their agreement with each of the following statements using a 5-point Likert-type scale (1 = strongly agree, 5 = strongly disagree): "My family members in Lemoore are supportive of my assignment to NAS Lemoore." And "My family members outside of Lemoore are supportive of my assignment to NAS Lemoore."

This study expands existing research to consider a member's hometown as a perceived element of fit. To measure location fit, participant response for "Home of record and/or hometown" was compared to qualitative focus group discussion to identify location preference (e.g., member from Los Angeles, CA prefers west coast because it is closer to family). Preference for west coast is measured based on the presence of preference (1 = preference, 0 = otherwise).

It is important to define the parameters for POS. It is quite possible that members' alignment to the Navy and to NAS Lemoore are different (e.g., service member likes the Navy but does not like NAS Lemoore). This study focuses on elements of embeddedness that relate to turnover intentions (e.g., reassignment) for members stationed at NAS Lemoore. The organization and community boundaries for this research are NAS Lemoore and the surrounding cities of Lemoore and Hanford, respectively. POS includes the initial socialization experience upon arrival. To measure the initial socialization experience at NAS Lemoore, sponsor experience was identified from qualitative focus group discussion (1 = good experience, 0 = otherwise).

Socialization practices are an integral part of social support within the organization and community. The development and sustainment of meaningful relationships are important to the overall fit within NAS Lemoore. To measure socialization practices, participants rated their agreement with the following statement using a 5-point Likert-type scale (1 = strongly agree, 5 = strongly disagree): "I feel that the social relationships I've built at NAS Lemoore contribute highly to my satisfaction here."

Another element of POS includes the extent to which members are informed about important information regarding their organization and community. Employees who fall on the periphery of a communication network are more likely to turnover (Feeley & Barnett, 1997). Morale, welfare, and recreation (MWR) programs include reduced priced tickets to local events, dining and entertainment events at local facilities, on-base gyms and recreation equipment rentals, and other fleet and family-related items (Navy Life SW—Lemoore, 2019). To measure the presence of information about MWR, awareness of and participation in MWR events was identified from qualitative focus group discussion (informed/utilizes MWR events =1, not informed/does not utilize MWR events =0).

For participants who indicated they have family with them at NAS Lemoore, this study evaluated the level of fit for the local family members. Social support of the family was measured by identifying activity in the local social groups (e.g., spouses' group, church, work) in the qualitative focus group discussion (1 = family participated in local activities, 0 = otherwise). The presence of activity in the community does not necessarily indicate a positive fit. To account for the affection of the experience, an additional measure included the type of experience present (1 = positive, 0 = negative).

Lastly, family members (e.g., spouse and children) may or may not exhibit the same feelings toward the Navy and NAS Lemoore as the service member. The extent to which a member feels deeply obligated to family affects the level of organization and community fit. One area important to service members involves the stability of children in the local education system. To measure the desire for stability, participant responses were identified from the qualitative focus group discussion (1 = stability desired, 0 = otherwise).

d. Job Embeddedness Element of Sacrifice

The element of sacrifice embodies personal and professional losses that result from leaving an organization and community. Research indicates that individuals who develop strong obligations towards others on-the-job and off-the-job are less likely to turnover (Jo & Ellingson, 2019). There is evidence to support that members with stronger embeddedness in the organization and community experience higher levels of sacrifice when considering leaving. The military community overall is unique because relocation is part of the job. However, in the case of NAS Lemoore, members assigned to one command at NAS Lemoore may find that options for follow-on orders include a separate command also located at NAS Lemoore. In this case, changes occur to the command, but the location stays the same.

To measure the level of organization and community network sacrifice members experience when considering leaving NAS Lemoore, participants rated their agreement with the following statement using a 5-point Likert-type scale (1 = strongly agree, 5 = strongly disagree): "The social relationships I've built during my time at NAS Lemoore would be difficult to lose." Additionally, to measure the level of organizational-specific sacrifice members feel when considering leaving NAS Lemoore, participants rated their agreement with the following statement using a 5-point Likert scale (1 = strongly agree, 5 = strongly disagree): "The tangible benefits (pay, health benefits, career advancement) are good for this job at NAS Lemoore."

Within a member's personal network, the feeling and obligation toward individuals varies by tie. Some ties are considered more important, or more influential, than others. To measure the level of sacrifice present for individuals when considering leaving NAS Lemoore, each tie within an egonet was evaluated. Non-local ties are categorized as low sacrifice because the relationship remains unchanged if a member leaves NAS Lemoore (i.e., there is no loss to a local tie). Degree of sacrifice (high = making sacrifice to leave NAS Lemoore, low = no sacrifice to leave NAS Lemoore) is identified through qualitative focus group discussion and categorized accordingly.

e. Intentions to Leave (or Stay) at NAS Lemoore

To measure intention to leave or stay at NAS Lemoore, dialogue from qualitative focus group responses were analyzed. Responses were captured according to the following statement: “Desire to stay in Lemoore?” (Y = yes, N = no, UNK = unknown).

G. SUMMARY

This research employed social network analysis, specifically an egocentric network approach, to gain mixed-methodological insight from the 27 focus group participants at NAS Lemoore. Pre-focus group questionnaire and focus group discussion data were analyzed using a spreadsheet application and by generating egonets. Egonets were built for all participants using quantitative research from survey responses from a short background questionnaire given prior to conducting the focus group session and qualitative research from focus group data. Measures for job embeddedness links, fit, and sacrifice included combined organization and community aspects given the culture of the military. Additionally, this research developed new measures for each of the job embeddedness categories specific to the members assigned to NAS Lemoore.

IV. RESEARCH RESULTS

A. INTRODUCTION

Chapter IV contains the results of the analysis from the data collected on-site at NAS Lemoore's Operations side in December 2019. Participants included 27 individuals currently serving on active duty as enlisted aviation maintenance personnel, prior enlisted aviation maintenance personnel, or enlisted aviation maintenance-supporting personnel. All participants completed a pre-focus group questionnaire and participated verbally in the focus group sessions. All participants were asked the same set of focus group questions, while additional follow-up and probing questions differed based on the participant responses during the session. The pre-focus group questionnaire and focus group questions are presented in Appendix C and D, respectively.

All 27 participants completed the name generator (e.g., social relationship table). Twenty-one of 27 participants provided local and hometown information for members in their social network on the pre-focus group questionnaire. Where applicable, qualitative focus group discussion data was used to code participants beyond the information provided in the pre-focus group questionnaire.

Chapter IV begins with summarized results based on participant responses. Additionally, results display participants grouped by individual demographic attributes based on their desire to remain at NAS Lemoore. Demonstrating the shift beyond attributional analysis, details of the NAS Lemoore job embeddedness model are described to include elements of links, fit, and sacrifice. The summarized results from the NAS Lemoore job embeddedness model follow. Next, egonets generated from pre-focus group questionnaires and qualitative focus group discussion data are provided. Raw egonet data is grouped and displayed. Lastly, detailed results of the categorized egonet profiles based on desire to remain at NAS Lemoore using the NAS Lemoore job embeddedness model are described.

B. FACTORS OF IMPORTANCE

On the pre-focus group questionnaire, participants were asked to rank factors of importance when considering NAS Lemoore as a duty station. The top factor was "Family/Friends," with "Job" and "Location" as the next highest. The distribution of participant's top ranked factor of importance is displayed in Table 2.

Table 2. Distribution of Participants' Top-Ranked Factor of Importance

Factor	# (%) of Participants
Family/Friends	10 (37%)
Job	7 (26%)
Location	7 (26%)
Other	3 (11%)

Note. Percentages calculated using total number (i.e., 27) of participants.

Participants who marked "Family/Friends" as their top ranked factor of importance when considering NAS Lemoore as a duty station varied by gender (e.g., six males and four females), marital status (e.g., four married and six single), and years of service (e.g., four with less than one year of service and two with over 11 years of service).

These mixed results from a single factor of importance demonstrate that there is variation in a person's value system. Effective retention strategies must expand to include other factors that impact turnover. Social network research is essential for a deeper understanding of how social relationships impact assignment and reassignment decisions for Sailors at NAS Lemoore.

C. DESIRE TO REMAIN AT NAS LEMOORE

Using qualitative focus group discussion data, participants were coded according to their desire to remain at NAS Lemoore (Y = yes, N = no, UNK = unknown). Participants who did not explicitly state a desire to stay or leave NAS Lemoore were placed into the

unknown category. The distribution of participants by desire to remain at NAS Lemoore are in Table 3.

Table 3. Distribution of Participants by Desire to Remain at NAS Lemoore

Desire to Remain at NAS Lemoore	# (%) of Participants
Yes	6 (22%)
No	11 (41%)
Unknown	10 (37%)

Note. Percentages calculated using total number (i.e., 27) of participants.

As evidenced in tables 4, 5, and 6, participants who desire to remain at NAS Lemoore varied based on gender, marital status, and years of service.

Table 4. Distribution of Participants by Desire to Remain at NAS Lemoore and Gender

	Gender	
Desire to Remain at NAS Lemoore	Male	Female
Yes	4 (15%)	2 (7%)
No	8 (30%)	3 (11%)
Unknown	8 (30%)	2 (7%)
Total:	**20 (74%)**	**7 (26%)**

Note. Percentages calculated using total number (i.e., 27) of participants.

Table 5. Distribution of Participants by Desire to Remain at NAS Lemoore and Marital Status

	Marital Status	
Desire to Remain at NAS Lemoore	Married	Single
Yes	4 (15%)	2 (7%)
No	5 (19%)	6 (22%)
Unknown	4 (15%)	6 (22%)
Total:	**13 (48%)**	**14 (52%)**

Note. Percentages calculated using total number (i.e., 27) of participants.

Table 6. Distribution of Participants by Desire to Remain at NAS Lemoore and Years of Service

	Years of Service						
Desire to Remain at NAS Lemoore	>1	1-2	3-4	5-6	7-8	9-10	11+
Yes	1 (4%)			1 (4%)			4 (15%)
No	1 (4%)	1 (4%)	2 (7%)	1 (4%)	2 (7%)	1 (4%)	3 (11%)
Unknown	3 (11%)	1 (4%)		2 (7%)			4 (15%)
Total:	**5 (19%)**	**2 (7%)**	**2 (7%)**	**4 (15%)**	**2 (7%)**	**1 (4%)**	**11 (41%)**

Note. Percentages calculated using total number (i.e., 27) of participants.

While attributional information about the Sailor is relevant, it is evident that this information alone is not sufficient. Members of like gender, marital status, and tenure are not all the same; their value systems differ. Being married does not immediately translate into desiring to remain at NAS Lemoore. For example, a married member may value job highest because ability to promote, tenure, and stability are essential for taking care of their family. Or a married member may value friends and family highest because they are planning to expand their family and seek a close support system. Either way, interpersonal relationships are at the heart of job embeddedness; therefore, to better understand turnover intentions, it is important to study one's social network.

This study explores social networks through the perspective of the individual Sailor using egocentric network analysis. Egocentric network research examines the quality of

the social relationships and measures observable attributes between a Sailor and the individuals in their social network (Hatala, 2006). To better understand the complexities associated with social networks and job embeddedness elements at NAS Lemoore, the NAS Lemoore job embeddedness model was created and employed.

D. NAS LEMOORE JOB EMBEDDEDNESS MODEL

Job embeddedness "represents a focus on the accumulated, generally nonaffective, reasons why an employee would not leave a job, which comprise a sort of stuckness, inertia, or bias toward the status quo" and "people can become embedded in many ways" (Mitchell et al., 2001, p. 1108). In other words, the "web" in which one becomes stuck is not the same for all members.

The NAS Lemoore job embeddedness model applies measures for each of the elements of links, fit, and sacrifice. As mentioned above, this model combines social relationships formed on-the-job and off-the-job due to the unique culture of the military. The NAS job embeddedness model focuses on the activities that generate embeddedness for Sailors and their families at NAS Lemoore.

Additionally, job embeddedness is a multi-dimensional collection of organization and community elements that likely cause an individual to remain with their employer at their current location (Mitchell et al., 2001). While these categories are not mutually exclusive (e.g., social relationships built at NAS Lemoore under fit may also relate to the level of sacrifice toward those social relationships), this model addresses each of the elements of links, fit, and sacrifice categorically using the specified measures discussed in Chapter III.

1. Links

"Links are characterized as formal or informal connections between a person and institutions or other people" (Mitchell et al., 2001, p. 1104). The links element contained two scores, one raw score and one variety score. The total number of links present in a participant's network comprised the raw score. The average number of links per person in the data set was eight. A total number of present links higher than or equal to the average

number of links per person in the data set was considered a high raw score. The total number of links is below the average number of links per person was considered a low raw score.

A variety score indicated the presence of different types of links, demonstrating the extent of important, local relationships in a person's network. Three characteristics were included: supervisor or mentor, local coworker, and local friend. Two or more of these relationships present in an individual's network was considered a high variety score. If one or none of these relationships was present, it was labelled as a low variety score. The links portion of the NAS job embeddedness model is shown in Figure 6.

LINKS				
Category	Charactertistic	Measure	Score	Measure Evaluation
Links/ties present	Total # of links present	Number		**Raw score:** High = at or over average # of links per person in data set; Low = under average # of links per person in data set; AVG=8.04
		RAW SCORE:		
Characteristic of link	Relationship-type (supervisor/mentor)	Tie present (no=0, yes=1)		**Variety score:** sum of link variety by relationship-type; High = 2 or more; Low = 1 or below
	Relationship-type (LOCAL coworker)	Tie present (no=0, yes=1)		
	Relationship-type (LOCAL friends)	Tie present (no=0, yes=1)		
		VARIETY SCORE:		

Figure 6. NAS Job Embeddedness Model—Links

2. Fit

"Fit is defined as an employee's perceived compatibility or comfort with an organization and with his or her environment" (Mitchell et al., 2001, p. 1104). Fitness scores were determined for both the individual and their family, if present. Six factors were considered for assessing the Sailor's level of organization and community fit to include family social support both locally and non-locally, POS using initial socialization and communication characteristics, socialization practices, and preference of east or west coast. A participant was given points for each characteristic aligned with good organization or

community fit. A score equal to three or more was considered high individual fitness. A score of two or less was considered low individual fitness.

For participants who indicated they have local family, a family fitness score was calculated based on three evaluation factors. Factors included social support of the family member(s), spouse's experience at NAS Lemoore, and stability for children in the local education system. Similar to the individual fitness score, the family fitness score was considered high if two or more of the factors were present and low if one or less of the factors was present. The fit portion of the NAS Lemoore job embeddedness model is included in Figure 7.

FIT				
Category	Charactertistic	Measure	Score	Measure Evaluation
Social support (individual)	My family in NAS Lemoore is supportive of my assignment (SA Q#4)	Agree or Strongly Agree=1, all others=0		**Fitness score (individual):** sum of present characteristics that provide an opportunity to have high (or good) fit with the community and organization; High = 3 or more, Low = 2 or less
	My family outside of NAS Lemoore is supportive of my assignment (SA Q#5)	Agree or Strongly Agree=1, all others=0		
Location	Coast preference	Prefers west coast=1, otherwise=0		
POS (Initial socialization)	Sponsor experience	Good experience = 1, otherwise = 0		
Socialization practices	Relationships built at NAS Lemoore contribute highly to my satisfaction here (SA Q#1)	Agree or Strongly Agree=1, all others=0		
POS (Communication)	MWR Events	Informed of MWR events/utilizes MWR events=1, not informed of MWR events/ does not utilize MWR events=0		
		FITNESS SCORE (INDIVIDUAL):		
Social support (family)	Activity in local social groups (e.g. spouses group, church, work)	Activity mentioned/present=1, otherwise=0		**Fitness score (family):** sum of present characteristics that provide an opportunity to have high (or good) fit with the community and organization; High = 2 or more, Low = 1 or less
	Spouse experience in NAS Lemoore	Positive=1, Negative=0		
Stability	Children in education system	Stability desired=1, otherwise=0		
		FITNESS SCORE (FAMILY):		

Figure 7. NAS Job Embeddedness Model—Fit

3. Sacrifice

"Sacrifice captures the perceived cost of material or psychological benefits that may be forfeited by leaving a job" (Mitchell et al., 2001, p. 1105). The sacrifice element contained two scores, a sacrifice score and a ratio score. The sacrifice score was comprised of two factors, the difficulty of losing social relationships built at NAS Lemoore and the evaluation of positive tangible benefits for the job at NAS Lemoore. The sacrifice score was calculated using short-answer questions' levels of agreement. If responses to both questions indicated agreement (e.g., agree or strongly agree), participants received a high sacrifice score. Participants received a low sacrifice score otherwise.

Lastly, the ratio score calculated the number of ties with high sacrifice to total ties. Non-local ties were considered low sacrifice because leaving Lemoore would result in no change to the current relationship in terms of proximity. The social relationship table and qualitative focus group discussion data were used to evaluate each of the local ties present in a participants' network. A local tie was categorized as high sacrifice if the participant was making a sacrifice to leave NAS Lemoore and categorized as low sacrifice if there was no sacrifice to leave NAS Lemoore. A ratio score was calculated by dividing the number of local, high-sacrifice ties by the total number of ties present. The ratio score was considered high if the score was .5 and higher. The ratio score was considered low if the score was .4 and lower. The sacrifice portion of the NAS Lemoore job embeddedness model is displayed in Figure 8.

SACRIFICE				
Category	Charactertistic	Measure	Score	Measure Evaluation
Social Support	Difficult to lose social relationships built while at NAS Lemoore (SA Q#3)	Agree or Strongly Agree=1, all others=0		**Sacrifice score:** describes sacrifices made upon leaving NAS Lemoore; High sacrifice = 2; Low sacrifice = 1 or less
Tangible benefits	Tangible benefits good for job at NAS Lemoore (SA Q#2)	Agree or Strongly Agree=1, all others=0		
		SACRIFICE SCORE:		
Importance of LOCAL link/ties	Level of sacrifice present when leaving NAS Lemoore	Ratio of High sacrifice to total ties (score between 0 and 1)		**Ratio score:** High = .5 and over; Low = .4 and under
		# of non-LOCAL ties:		Non-LOCAL ties: Low = no change to relationship
		# of LOCAL ties w/High sacrifice:		LOCAL ties: High = making sacrifice to leave; Low = no sacrifice to leave
		# of LOCAL ties w/Low sacrifice:		
		RATIO SCORE:		

Figure 8. NAS Lemoore Job Embeddedness Model—Sacrifice

4. NAS Lemoore Job Embeddedness Model Summary Results by Desire to Remain at NAS Lemoore

Table 7 lists the NAS Lemoore job embeddedness model scores for each participant along with whether they expressed a desire to remain at NAS Lemoore. For columns two through seven, high scores are indicated with an "H" and a cell color of green. Low scores are indicated with an "L" and a cell color of red. An "N/A" in column five translates to a participant who did not indicate they had local family with them at NAS Lemoore. An "N/A" in column seven indicates a participant did not specify local or hometown information for the relationships listed on the social relationship table of the pre-focus group questionnaire.

Table 7. NAS Lemoore Job Embeddedness Model Summary Results by Desire to Remain in Lemoore

Desire to Remain In Lemoore? (Y, N, or UNK)	LINKS - Raw Score	LINKS - Variety Score	FIT - Individual Score	FIT - Family Score	SACRIFICE - Sacrifice Score	SACRIFICE - Ratio Score	Participant ID
Y	H	H	H	N/A	L	H	003
Y	H	H	H	H	L	H	005
Y	H	H	H	N/A	L	L	006
Y	H	H	H	H	L	H	007
Y	H	H	H	H	L	L	023
Y	L	L	H	H	L	L	026
N	H	H	L	N/A	L	L	009
N	H	H	L	N/A	L	L	015
N	H	L	L	N/A	L	N/A	014
N	L	L	H	N/A	L	N/A	012
N	L	L	H	L	L	L	022
N	L	L	H	N/A	L	N/A	024
N	L	L	H	L	L	L	025
N	L	L	L	L	L	L	008
N	L	L	L	L	L	L	010
N	L	L	L	L	L	L	011
N	L	L	L	L	L	N/A	017
UNK	H	H	L	N/A	L	L	001
UNK	H	H	L	N/A	L	L	021
UNK	H	H	L	L	L	L	027
UNK	H	L	L	L	H	L	019
UNK	H	L	L	N/A	L	N/A	002
UNK	H	L	L	L	L	L	004
UNK	H	L	L	L	L	L	018
UNK	L	H	L	N/A	L	L	020
UNK	L	L	H	N/A	H	L	013
UNK	L	L	H	N/A	H	L	016

While each of these elements was measured independently and scored independently, it is the aggregate, or summary, of the results that speaks to the level of embeddedness (Mitchell et al., 2001). As demonstrated by the independent distributions of participant data earlier, a holistic view of the individual is required for a more comprehensive understanding of the social relationship factors associated with job embeddedness at NAS Lemoore. Not all participants with high individual fitness scores desire to remain at NAS Lemoore. Not all participants with high links scores desire to remain at NAS Lemoore.

Some patterns begin to emerge when evaluating the overall profile of individuals according to their desire to remain at NAS Lemoore, however. Participants who indicated

they desire to remain at NAS Lemoore tend to have high links and fit scores as evidenced by the green-colored cells containing an "H." Conversely, participants who indicated they do not desire to remain at NAS Lemoore tend to have lower links and fit scores as evidenced by the red-colored cells containing an "L."

Participant profiles can also be labelled according to the following nomenclature: "Links scores: Fit scores: Sacrifice scores (Desire to remain in Lemoore?)." For example, participant 003's profile is HH: H-: LH(Y), where "H" represents "high," "L" represents "low," and a "-" represents "N/A." The nomenclature for "Desire to remain in Lemoore?" score is coded according to "Y = yes," "N = no," and "UNK = unknown." Another example, participant 022's profile is LL: HL: LL(N).

Furthering the analysis, egonets were generated for all participants based on the results from the NAS Lemoore job embeddedness model. The results from the egonet data analysis are described below.

E. EGONET DATA

This section begins with raw egonet profile data. Findings show no discernable patterns from egonets grouped by top ranked factor of importance, individual fit, gender, and marital status. Findings do show discernable egonet profile patterns when grouped by desire to remain at NAS Lemoore. In the following section, a deeper analysis exposes three categorizes of egonet profiles based on participants' desire to remain at NAS Lemoore resulting from NAS Lemoore job embeddedness model analysis. The final section provides research study insights and quotes from participants.

1. Raw Egonets

Figure 9 displays the 27 egonets generated based on pre-focus group questionnaires and focus group data collected on-site at NAS Lemoore. These egonets are displayed in raw, uncategorized fashion and listed according to participant identification (ID). Egonets enclosed in a black box indicate participant did not provide local and hometown information. Figure 9 shows no discernable patterns to the egonet profiles in raw form.

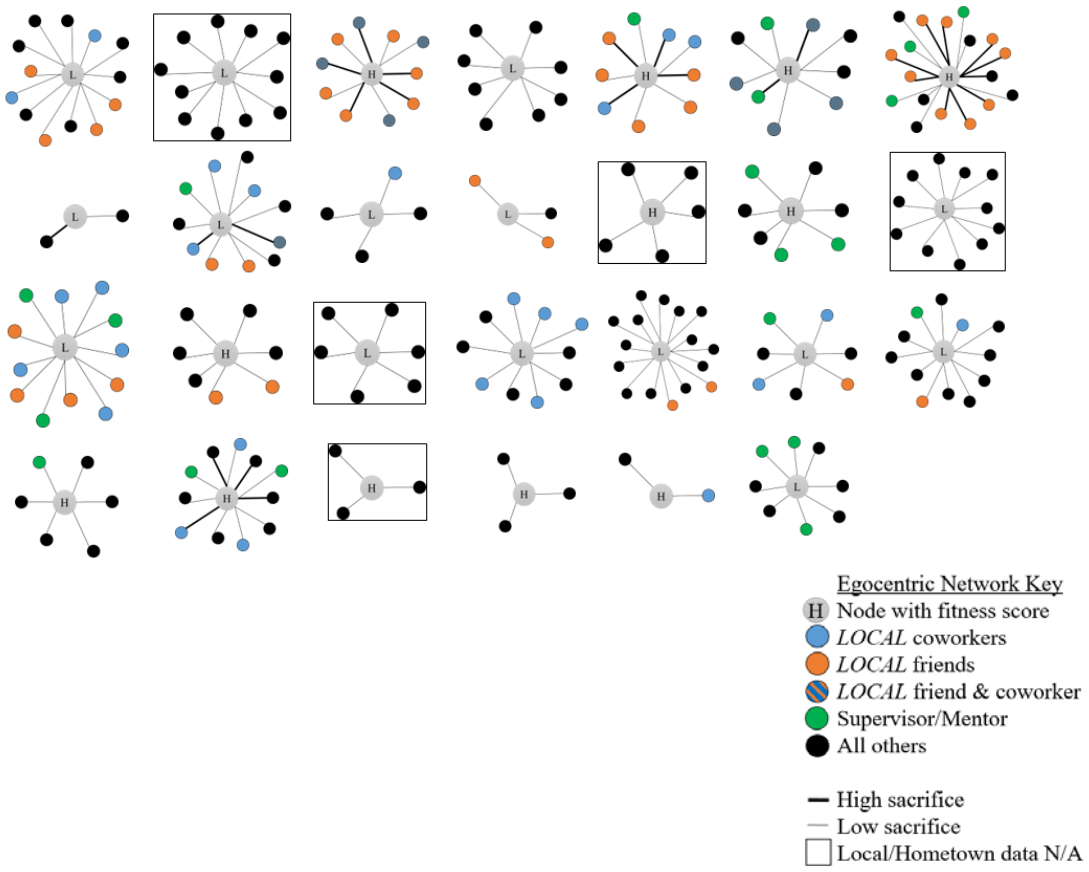

Figure 9. No Discernable Job Embeddedness Patterns from Ungrouped Egonets by Participant ID

2. Grouped Egonets with No Discernable Job Embeddedness Patterns

a. Egonets Grouped by Top Ranked Factor of Importance

Egonets grouped by top ranked factor of importance are displayed in Figure 10. Ten participants indicated "Family/Friends" as the top ranked factor when considering NAS Lemoore as a duty station. Seven participants indicated "Job" and seven participants indicated "Location" as the top ranked factor of importance when considering NAS Lemoore as a duty station. Three participants indicated "Other" as their top ranked factor of importance. An egonet enclosed in a black box indicates participant did not provide local and hometown information.

No profile patterns emerge from Figure 10. Preliminary categorization of egonets by top ranked factor of importance suggests more information is required to determine

levels of job embeddedness. For instance, two of 10 participants who indicated "Family/Friends" as their top ranked factor of importance when considering NAS Lemoore as a duty station desired to remain at NAS Lemoore. Two of seven participants who indicated "Job" and one of seven who indicated "Location" as their top ranked factor of importance when considering NAS Lemoore as a duty station desired to remain at NAS Lemoore. One of three who indicated "Other" desired to stay at NAS Lemoore.

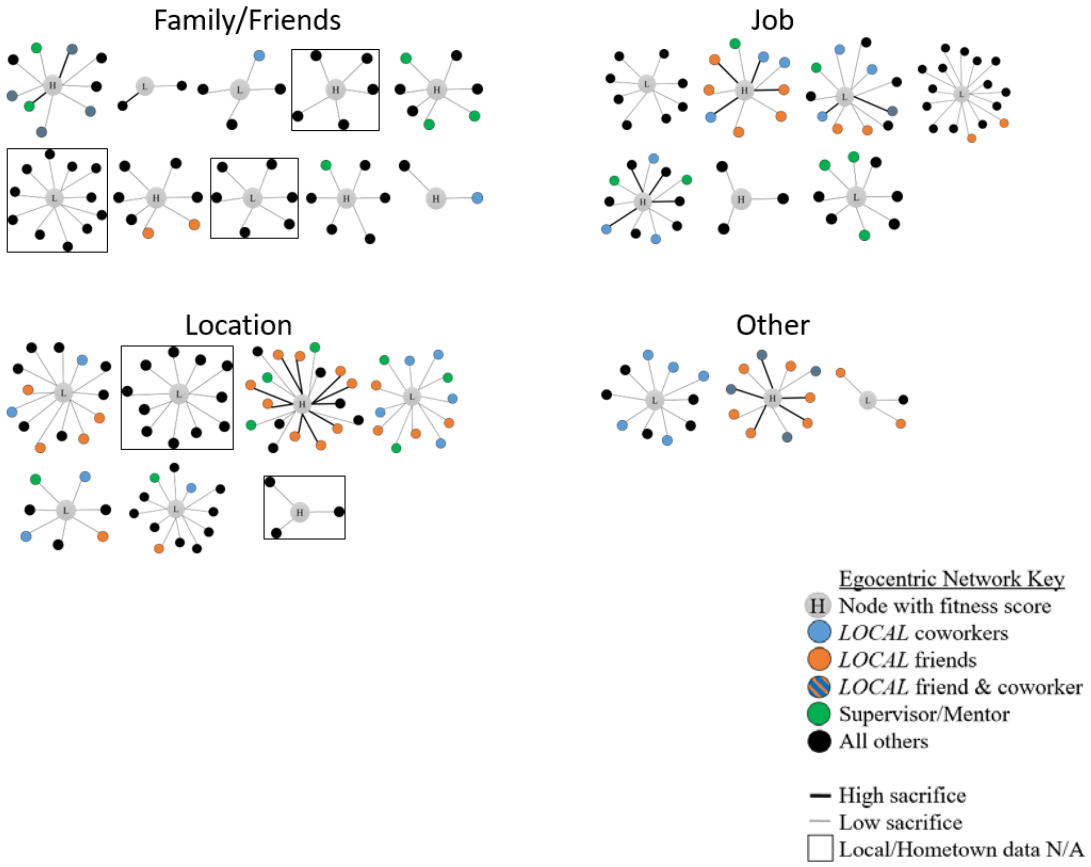

Figure 10. No Discernable Job Embeddedness Patterns from Egonets Grouped by Top Ranked Factor of Importance

b. Egonets Grouped by Individual Fit

Egonets grouped by low versus high individual fit are shown in Figure 11. Fifteen of the participants exhibit low individual fit. Twelve of the participants exhibit high individual fit. Egonets enclosed in a black box indicate participant did not provide local

and hometown information. Figure 11 shows the variety of profiles within both groups. Preliminary findings of egonets categorized alone by individual fit do not offer meaningful insight into the overall level of job embeddedness.

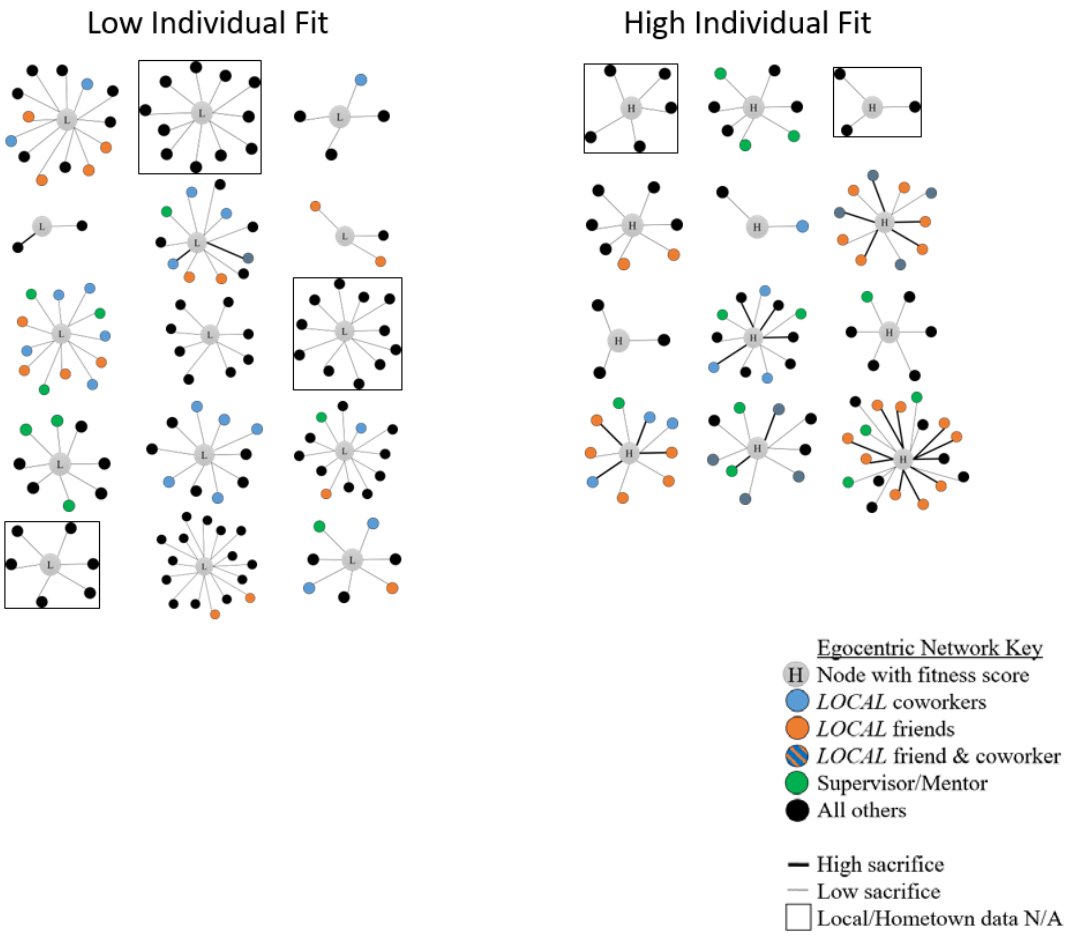

Figure 11. No Discernable Job Embeddedness Patterns from Egonets Grouped According to Individual Fit

3. Grouped Egonets by Demographic Characteristics with No Discernable Job Embeddedness Patterns

a. Gender

Egonets grouped by gender are displayed in Figure 12. There were 20 male participants and seven female participants. An egonet enclosed in a black box indicates participant did not provide local and hometown information. Preliminary findings of

grouped egonets by gender indicate that gender alone does not provide a significant contribution for overall job embeddedness.

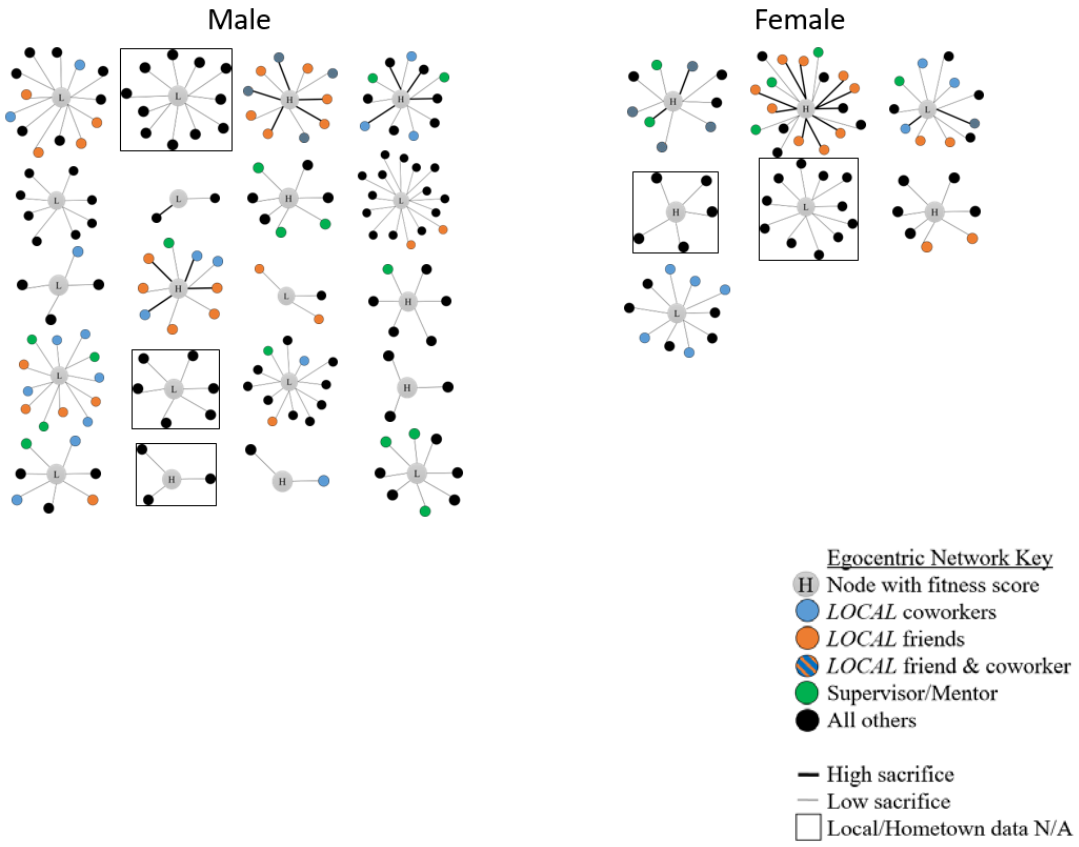

Figure 12. No Discernable Job Embeddedness Patterns from Egonets Grouped by Gender

b. Marital Status

The egonets in Figure 13 are grouped by marital status. There are thirteen married participants and 14 single participants. An egonet enclosed in a black box indicates participant did not provide local and hometown information. Preliminary findings suggest single Sailor profiles may include a high number and high variety of ties; however, two of 14 single participants indicated a desire to remain at NAS Lemoore. Egonets grouped by marital status alone do not provide meaningful information for overall job embeddedness.

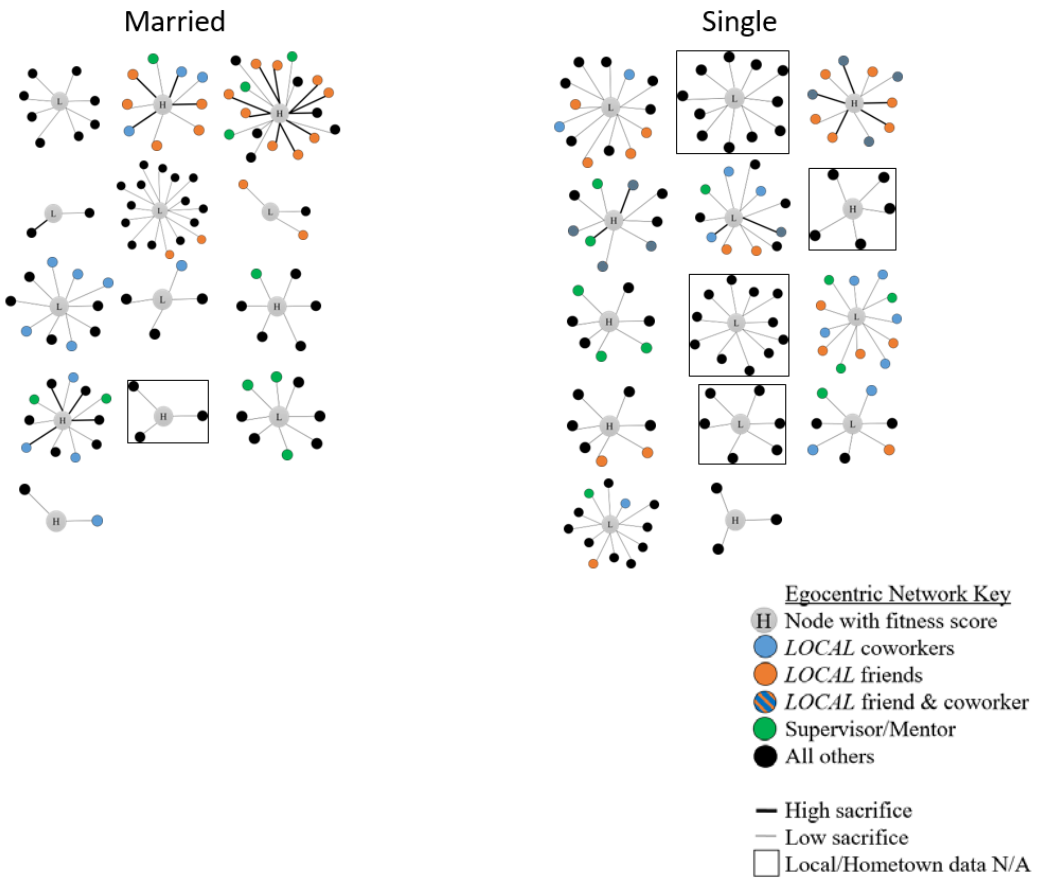

Figure 13. No Discernable Job Embeddedness Patterns from Egonets Grouped by Marital Status

4. Grouped Egonets with Discernable Job Embeddedness Patterns

a. Egonets Grouped by Desire to Remain at NAS Lemoore

Figure 14 shows egonets grouped by participants' desire to remain at NAS Lemoore. Six participants indicated they desire to remain at NAS Lemoore. Eleven participants expressed their desire to leave NAS Lemoore. The remaining 10 participants did not explicitly state their desires to stay or leave NAS Lemoore. An egonet enclosed in a black box indicates participant did not provide local and hometown information.

Patterns begin to emerge from the grouped egonets in Figure 14. For example, profiles in the "Stay at NAS Lemoore" category tend to have high total and high variety in their connections. All individual fitness scores are high and there are several ties with high

sacrifice. In addition, profiles in the "Leave NAS Lemoore" category tend to have low total and low variety in their connections. The individual fitness scores vary, and high sacrifice ties are scarce.

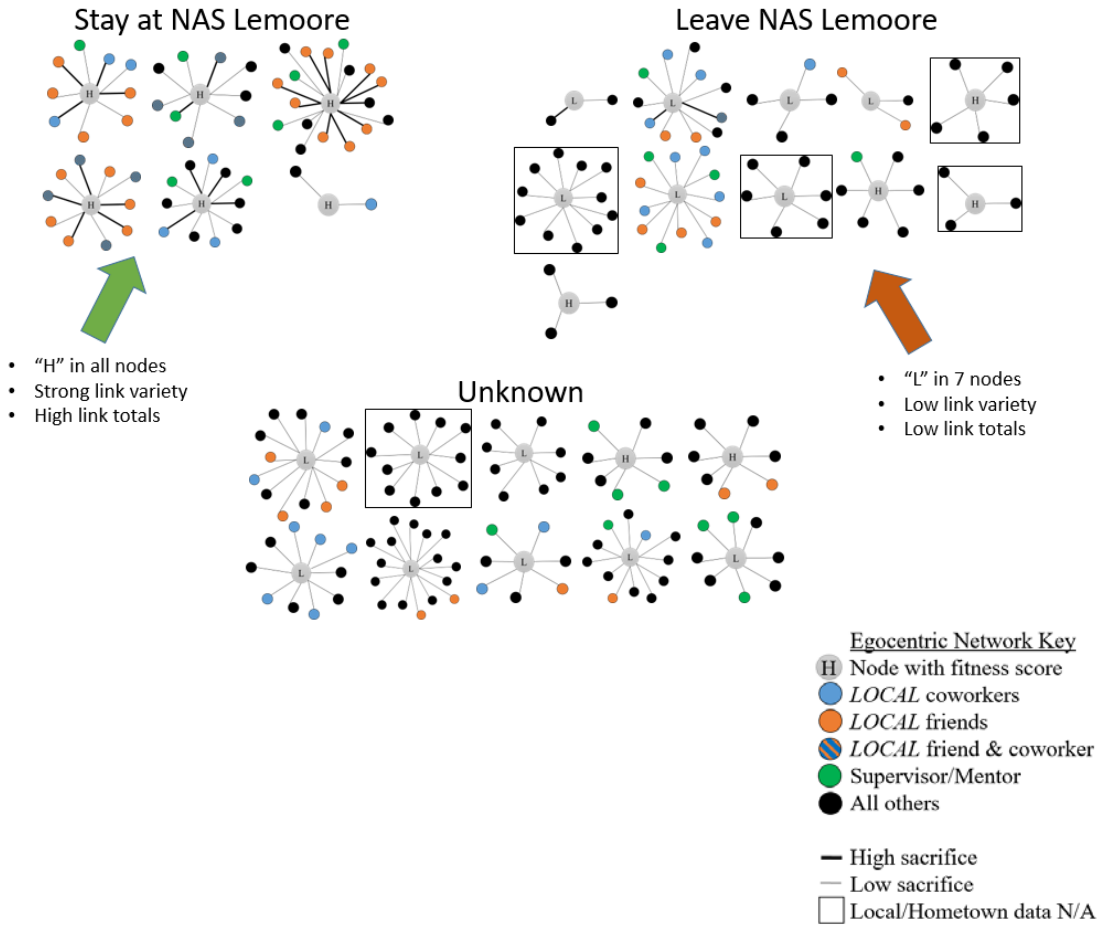

Figure 14. Discernable Patterns from Egonets Grouped by Desire to Remain at NAS Lemoore

F. EGONET JOB EMBEDDEDNESS PROFILE CATEGORIZATION

All 27 participants were evaluated against the NAS Lemoore job embeddedness model using data from the pre-focus group questionnaire and qualitative focus group discussion. Based on this information, egonets were generated for each participant. Moving beyond single-focused egonet groupings, a deeper analysis into the combined characteristics of the egonets resulted in categorized findings based on a participants'

desire to remain at NAS Lemoore. Below are the results of the categorized egonets according to similar features and patterns of job embeddedness.

1. Category 1—Desire to Remain at NAS Lemoore

Using "Desire to stay in Lemoore?" (Y = yes, N = no, UNK = unknown), six out of 27 participants were coded as "yes." All six participants had a high individual fitness score. Five of six participants have high total and variety links scores. The sacrifice scores for the six participants are mixed. Gender, marital status, and years of service varied for participants in this category.

Participants in this category are highly embedded and exhibit low turnover intentions. Participant profiles common in this category include: HH: HH: LH(Y) and HH: HH: LL(Y). Egonets assigned to this category have more than eight total ties with a variety of alters to include supervisors and mentors, local friends, local coworkers, and others. This is readily visible by numerous color-coded circles attached to the central node by a line. Sacrifice scores are mixed, so there is slight variance among the number of bolded and non-bolded lines. Two example egonets displaying high job embeddedness are in Figure 15 and Figure 16.

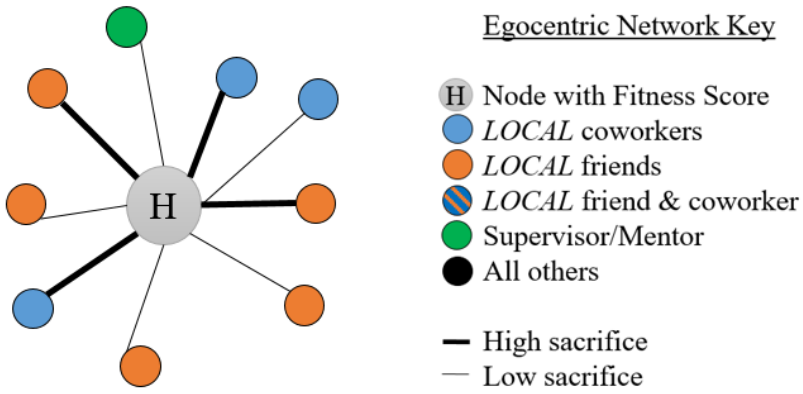

Figure 15. Highly Embedded Egonet Example 1

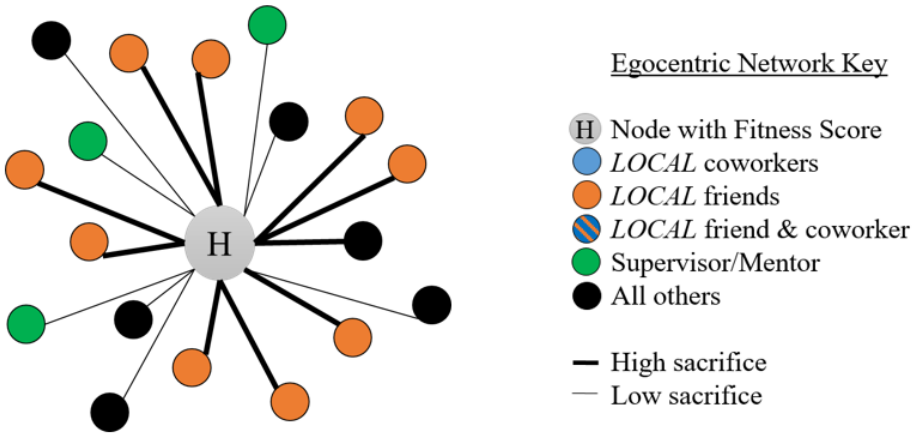

Figure 16. Highly Embedded Egonet Example 2

2. Category 1a—Married and Desire to Remain at NAS Lemoore

A subcategory of those who desire to remain at NAS Lemoore includes those who are married and desire to remain at NAS Lemoore. This egonet profile occurs at the intersection of being married and desiring to stay at NAS Lemoore. Thirteen out of 27 participants indicated they are married. Four of those 13 participants expressed a desire to remain at NAS Lemoore. Three of four participants were male. Three of four participants had over 11 years of service. Four of four participants had high individual and high family fitness scores. The links and sacrifice scores were mixed.

These profiles exhibit high overall job embeddedness stemming from a high individual and high family fit to the organization and to the community. Participant profiles common in this category include: HH: HH: LH(Y). Central nodes contain an "H" indicating high individual fit. Egonets in this subcategory mostly have above average total links with some variety. The color-coded circles have some color variety, but also include black circles for non-local social connections. Sacrifice indicators are also mixed as evidenced by some bolded and some non-bolded lines connecting the alters to the central individual. An example egonet for a married participant with high embeddedness is in Figure 17.

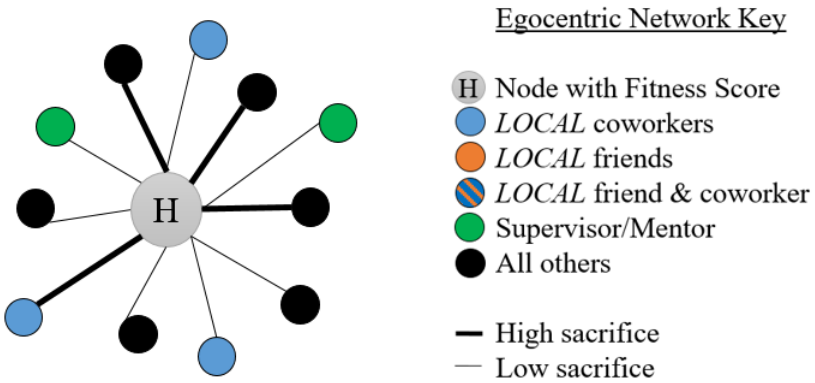

Figure 17. Highly Embedded (Married) Egonet Example

3. Category 2—Desire to Leave NAS Lemoore

The second category of egonet profiles include those who expressed a desire to leave NAS Lemoore. Eleven out of 27 participants were coded as "no" when using "Desire to stay in Lemoore?" (Y = yes, N = no, UNK = unknown). Gender, marital status, and years of service varied across participants. The individual fitness scores for these 11 participants are mixed. Nine of 11 participants have low total and low variety links scores. All 11 participants have a low sacrifice score. Seven of 11 have a low ratio score. The remaining four participants did not provide local and hometown information on the pre-focus group questionnaire. Ratio scores were calculated evaluating the sacrifice present for local ties; therefore, these four participants received a score of "N/A."

Egonets in this category display a low level of overall job embeddedness which may be associated with higher turnover intentions. Participant profiles common in this category include: LL: LL: LL(N) and HH: L-: LL(N). Egonet nodes have mixed individual fitness scores (i.e., "H" and "L"). The number of ties present is below average, and the variety of ties present is limited. There are a small number of ties and most of the circles are colored black, indicating more non-local connections than local connections in the Sailors' social network. Low sacrifice scores indicate little-to-no bolded lines connecting the ego with their ties. Two example egonets for participants with low job embeddedness are in Figure 18 and Figure 19.

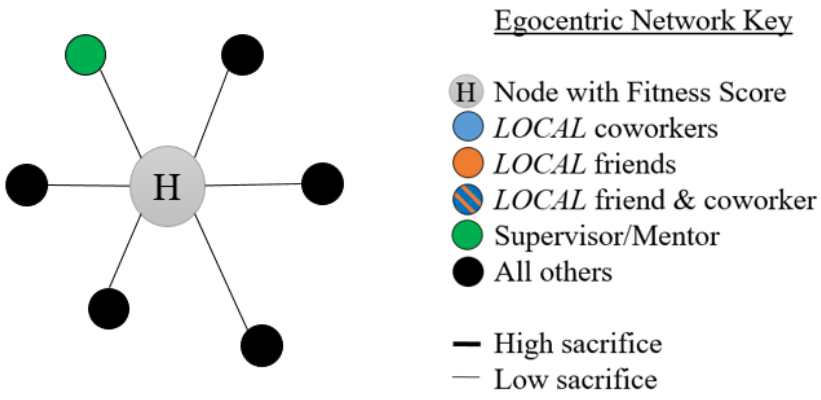

Figure 18. Low Embedded Egonet Example 1

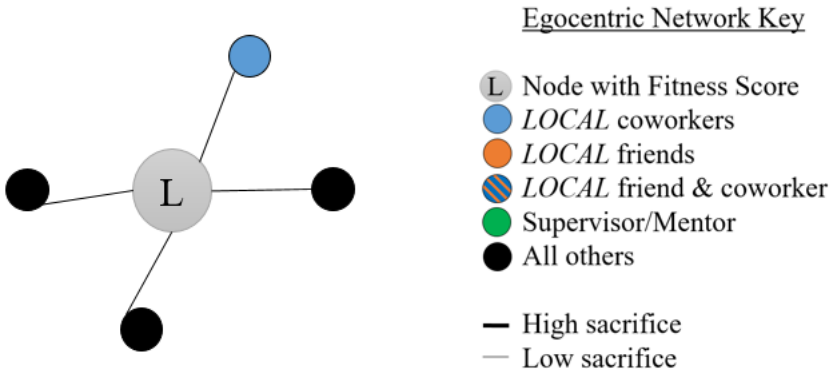

Figure 19. Low Embedded Egonet Example 2

4. Category 2a—Married and Desire to Leave NAS Lemoore

Similar to subcategory 1a above, this subcategory includes participants who are married and desire to leave NAS Lemoore. These profiles are the overlap between participants who are married and expressed a desire not to remain at NAS Lemoore. As a reminder, 13 of 27 participants indicated they are married. Two of those 13 participants indicated a desire to leave NAS Lemoore. These two participants have high individual fitness scores but low family fitness scores. The scores for links and sacrifice elements are mixed.

Participants in this category display low overall job embeddedness and are likely associated with having higher turnover intentions. Participant profiles common in this category include: LL: HL: LL(N). Central nodes indicate high individual fit; however, low family fit exists. The number of ties and variety of ties is mixed. The color-coded circles have some variety and some non-local ties as evidenced by a mixture of colored and black circles. Additionally, mixed sacrifice scores are shown by some bolded and some non-bolded connecting lines within the Sailors' network. An example egonet for a participant who is married and desires to leave NAS Lemoore is displayed in Figure 20.

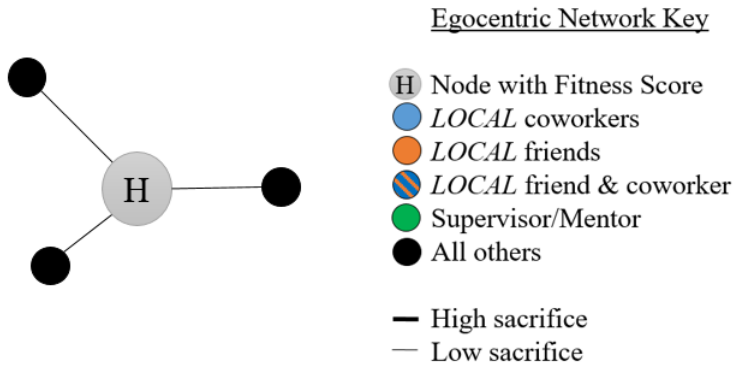

Figure 20. Low Embedded (Married) Egonet Example

5. Category 3—Desire to Remain at NAS Lemoore Unknown

There were 10 participants out of 27 who were coded as "unknown" using "Desire to stay in Lemoore?" (Y = yes, N = no, UNK = unknown). These participants range in marital status, gender, and years of service. Eight of 10 participants have a low individual fitness score. Four of the 10 indicated they have local family at NAS Lemoore. All four of four with local family have a low family fitness score. The raw and variety links scores are mixed. Nine of 10 participants have a low sacrifice ratio score. The other participant did not provide local and hometown tie information and received a ratio score of "N/A."

The participants in this category did not explicitly state their desire to stay in or leave NAS Lemoore. Common participant profiles in this category include: LL: H-: HL(UNK) or HL: LL: LL(UNK). Egonet nodes are mostly labeled with an "L" for low individual fit. The number of ties present and colored-circle variety vary among the participants. Low sacrifice ratio scores are evidenced by non-bolded connecting lines from the center node to the alters. Two example egonets with unknown desires for remaining in NAS Lemoore are in Figure 21 and Figure 22.

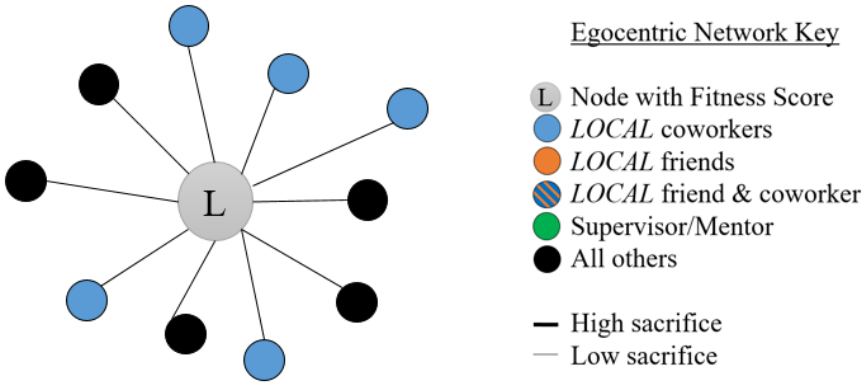

Figure 21. Egonet with Unknown Desire to Remain at NAS Lemoore Example 1

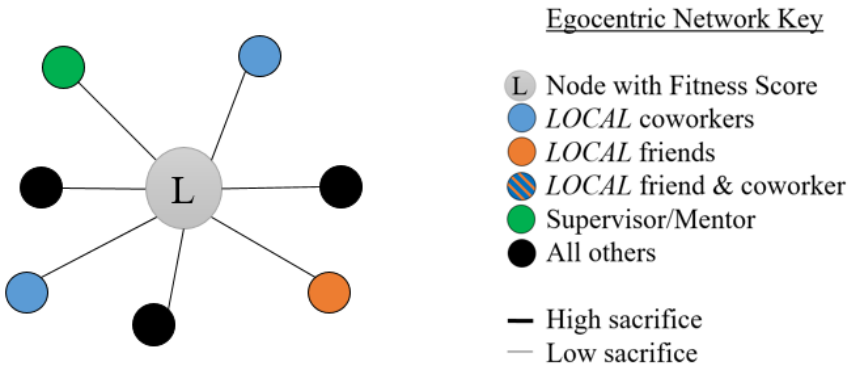

Figure 22. Egonet with Unknown Desire to Remain at NAS Lemoore Example 2

G. DISCUSSION

This study is unique in that it developed and evaluated a modified job embeddedness model for enlisted aviation maintenance personnel currently stationed at NAS Lemoore. It is important to emphasize that job embeddedness elements were conceptualized to specifically capture the aggregated forces that constrain individuals from leaving NAS Lemoore, not the forces that drive one to leave. The NAS Lemoore job embeddedness model evaluated several factors within links, fit, and sacrifice components that embed a Sailor while serving at NAS Lemoore.

This research blended social network analysis with job embeddedness theory to provide new insight into how social relationships on-the-job and off-the-job contribute to job embeddedness, and ultimately turnover. Through egocentric network analysis and generation of egonets, this research demonstrates that Sailors can become embedded in several different ways (e.g., not all social networks look the same). This research generally supports job embeddedness and turnover literature, although there are a few observations that fall outside of research conducted to-date.

Deeper insights from the categorized egonet profiles along with specific focus group discussion quotes from participants are provided in the following sections. As a reminder, participant profiles are also described according to "Links scores: Fit scores: Sacrifice scores (Desire to remain in Lemoore?)." For example, participant 009's profile is HH: L-: LL(N).

1. High Levels of Job Embeddedness

Egonets in "Category 1—Desire to Remain at NAS Lemoore" possess high individual fitness scores and high raw and variety links scores. The sacrifice scores are mixed. Members in this category are likely supported by their local and non-local family, indicating low levels of work-family conflict. Some married Sailors indicated high levels of social activity and involvement for their spouse and strong desires for their children to have stable school experiences.

> If I could stay I would because my kids are to the point where graduation is like something we are thinking about. …I would like them to just have a

> solid four years in high school. …If I could stay for them to graduate at one school and build their friends I would do that.
>
> (HH: HH: LH(Y) participant)

Location options for enlisted aviation maintenance personnel include Virginia Beach, Virginia, Lemoore, California or Japan. Members in this category generally prefer the west coast—particularly due to nearby family. Service members often deploy with their unit from NAS Lemoore. Members in this category expressed that individual and family social support from family nearby during times of deployment was an important consideration for remaining at NAS Lemoore.

> Lemoore kind of put me midpoint between where my kids and where my other extended family lives, so neither one of those places has a naval base in close proximity to it, so at least this way I can split the difference when it comes to travel.
>
> (HH: H-: LH(Y) participant)

> The group I am associated with is because it's like where he works it is just like a network of spouses that—so when they deploy I felt a lot more connected… So now that I have this connection with this group, like everybody knows what is going on and it made his deployments a lot easier I think.
>
> (HH: HH: LH(Y) participant)

> This is my first command. I think it's easier because I am close to my mom and my family, my friends. So this is the best choice for me.
>
> (HH: H-: LL(Y) participant)

> So I was lucky enough to get stationed three hours from my hometown. So, for me—I can just go home on the weekend if I want. That is a way for me to keep sane from being here all the time.
>
> (LL: HH: LL(Y) participant)

The initial socialization experience was generally positive, indicating that a good sponsor upon arrival has a strong positive impact on how a service member builds their social network at NAS Lemoore. Additionally, members who generate meaningful relationships that contribute highly to their overall satisfaction at NAS Lemoore fall in this

category. These members are informed and active in local MWR events both on-the-job and off-the-job. MWR events offer single Sailors and Sailor with families the opportunity to meet and interact with people who have similar interests. These social relationships increase the total number of people an individual interacts with and adds variety to a member's social network.

> So, I've been in a little over 14 years right now. …Having people that I know in FRC [Fleet Readiness Centers] or at another command or something like that makes it a lot easier to make connections with other people at those commands and most people here would be able to tell you that it's not about what you know, it's about who you know.
>
> (HH: HH: LL(Y) participant)

Research on the number of outgoing friendship ties relating to reduced turnover intentions is mixed (Jo & Ellingson, 2019). As mentioned, relocation is common for military members. A high number of local ties alone is not indicative of high embeddedness because a Sailor may choose to make the best of their time wherever they are stationed. Furthermore, it is expected that the level of sacrifice toward these ties is mixed depending on how much choice the Sailor perceives to have over his or her follow-on assignment.

2. Low Levels of Job Embeddedness

Egonets in "Category 2—Desire to Leave NAS Lemoore" have mixed individual fitness scores, low raw and variety scores and low sacrifice scores. Sailors in this category have little or no social support from local and non-local family. Married Sailors in this category indicated their spouse has little or no activity in local groups and that their spouse's experience at NAS Lemoore is negative. Felt obligations toward family members who are unsupportive of the Navy or of NAS Lemoore induces significant stress for the Sailor.

> The first three to four years of me being here it was very difficult for me and my wife because we didn't like it. …She hates Lemoore with a passion. …It adds a bit of stress.
>
> (LL: LL: LL(N) participant)

> Honestly my wife hates it out here. …She did not choose to be here, so she wants out. I mean it's kind of hard to you know try to find like the bright side or be optimistic about this place when you have got someone that doesn't want to be here anyways.
>
> (LL: LL: LL(N) participant)

Sailors in this category did not indicate a positive sponsor experience upon arrival. A lack of immediate resources and connections impacts a member's initial socialization experience. Members who feel outside of the communication loop often exhibit lower levels of job embeddedness (Feeley & Barnett, 1997). These members also seemed to be uninformed of MWR events or do not participate in MWR events.

> …I spent half of my career in Japan. The support network there for both married and single Sailors throughout the base and MWR is just—there is no comparison to what we have over there to here.
>
> (LL: HL: LL(N) participant)

Members in this category struggle to preserve long-distance relationships and this is where most of their social relationship energy is spent. This is supported by a low number of local ties and a low number of local coworker ties. Additionally, both the total number and variety of links is low for members in this category.

> My personal opinion, Lemoore is a whole other animal. I came from Virginia Beach and it's just a—it's like opposite—night and day for me. …I was able to connect with people on the east coast much better than I have been able to over here.
>
> (LL: H-: L-(N) participant)

A common theme for individuals who expressed a desire to leave NAS Lemoore included the strong separation for work and personal connections. Participants described experiencing long work hours and a lack of desire to share personal information with coworkers. This is contradictory to traditional military culture where the United States Navy is your "family." Opposite those members who considered coworkers to also be their friends, members in this category strive to keep these connections separate.

> Now even here just being contract oversight like we work night and day. This past week we put in four ten-hour days and we don't even work on

> jets. So it doesn't matter if you are working on jets or if you are watching civilians working on jets, we are all overworked.
>
> (LL: HL: LL (N) participant)

> I make it a personal goal for myself to try and keep my work life separated from my personal life. … I don't make an effort to really maintain or build strong ties to anybody in the area work-wise.
>
> (LL: LL: LL(N) participant)

> …I don't really talk about my personal issues with people that I work with. …It's hard to mix personal and professional.
>
> (LL: H-: L-(N) participant)

It is no surprise that these profiles exhibit low levels of sacrifice. There's not much to give up if the local organization and community relationships do not exist.

> It is my second time here and I wasn't happy when I got the orders again, but it is what it is. It's just hard and your social network is what gets you through most of the week.
>
> (LL: H-: L- (N) participant)

> I really don't have anything commitment-wise tying me to this area.
>
> (HH: L-: LL(N) participant)

3. Moderate Levels of Job Embeddedness

Lastly, egonets in "Category 3—Desire to Remain at NAS Lemoore Unknown" are the collection of individuals who did not specifically express a desire to stay or leave NAS Lemoore. There are several reasons for this. First, these members may have preferred to keep this information confidential for fear of retribution or dissemination by other focus group participants. Members may be undecided on their desires to stay or leave NAS Lemoore because they do not need to immediately make this decision. Also, members may have moderate levels of embeddedness that have mixed results on actual turnover intentions.

Members in this category had lower levels of individual fitness. These Sailors may feel overworked, may have experienced a better command and location elsewhere, may

not feel in the communication loop, or may not get along with the general work culture at NAS Lemoore. Married individuals indicated their family and/or spouse were not supportive or did not feel supported. A strong felt obligation to spouse and family indicates higher levels of work-family conflict, which reduce job embeddedness (Huffman et al., 2013).

> I found it increasingly difficult to be there for my family. …I used to be the person everyone turned to with their problems before I joined, and now that I am in, it's a lot more difficult being a state or two away and trying to talk them through a situation when I am not there seeing the situation.
>
> (HH: L-: LL(UNK) participant)

The number of ties and variety of ties present varied for these individuals. Participants who were indifferent about staying at NAS Lemoore for follow-on assignments mentioned trying to make the best of their situation regardless of the circumstances. Members in this category exhibit a high number of local ties, some even including coworkers and supervisors. Alternatively, other members indicated they prefer to make friends outside of the immediate work center. This is similar to the members in category 2 above where the presence of connections alone is not an indicator of high job embeddedness and reduced turnover intentions.

Also, there is low evidence that members feel high levels of sacrifice for the local social connections they have built when considering leaving NAS Lemoore. This makes sense when members form local connections to enjoy their time while stationed at NAS Lemoore; however, these connections are not enough to make an individual desire to stay. Despite the presence of local ties, most of the ties in these members' networks are non-local. A non-local tie is not an immediate indication of low job embeddedness since maintaining long-distance relationships is a byproduct of being in the military.

H. SUMMARY

Chapter IV outlined the results from the egocentric network analysis and focus group data collection conducted on-site at NAS Lemoore. Participants included 27 active duty enlisted aviation maintenance personnel, prior enlisted aviation maintenance personnel, and enlisted aviation maintenance-supporting personnel. Summarized

participant data based on desire to remain at NAS Lemoore was provided. The NAS Lemoore job embeddedness model along with listed summarized results described. Grouped egonet data was presented. Lastly, the egocentric network analysis results displaying categorized egonet profiles based on desire to remain at NAS Lemoore were discussed in detail and accompanied by supplemental participant quotes from the focus group discussions.

V. SUMMARY, CONCLUSION, RECOMMENDATIONS, AND FUTURE RESEARCH

A. SUMMARY

This thesis conducted preliminary research to investigate the relationship between social relationships and turnover intentions at NAS Lemoore. Additionally, this research explored how elements of job embeddedness—links, fit, and sacrifice—impact a member's reassignment decisions at NAS Lemoore. Twenty-seven active duty enlisted aviation maintenance personnel, prior enlisted aviation maintenance personnel, and enlisted aviation maintenance-supporting personnel participated in focus groups conducted on site at NAS Lemoore. Pre-focus group questionnaires and focus group questions asked participants about their social networks with relation to their experience at NAS Lemoore. These discussions allowed for richer, deeper data than a survey alone could have provided. In fact, this data will be used to shape the additional research conducted by NPS researchers for Study B of the NRP project.

This study demonstrates that Sailors who are more highly embedded tend to have reduced turnover intentions and Sailors who have low levels of embeddedness tend to have increased turnover intentions. The egocentric network analysis revealed categories of egonet profiles depicting these levels of job embeddedness at NAS Lemoore. Commensurate with job embeddedness theory research, it is evident that a variety of interpersonal variables contribute to an individual's level of job embeddedness. Service members may have more, or less, embeddedness in particular categories of organization and community fit, links, and sacrifice. It is the aggregated level of job embeddedness that is significant for better understanding voluntary turnover.

B. CONCLUSION

This preliminary NRP study presents a modified job embeddedness model tailored for the enlisted aviation maintenance personnel at NAS Lemoore. This study explored elements of job embeddedness through the lens of social network theory, specifically using egocentric network analysis. These results provide insight into how social networks on-

the-job and off-the-job are related to levels of job embeddedness and ultimately reassignment decisions for Sailors currently stationed at NAS Lemoore.

Sailors who exhibit high levels of fit to the organization and community and who have numerous local and non-local ties of differing types expressed a desire to remain at NAS Lemoore. Conversely, Sailors who indicated more non-local than local ties and who demonstrated low concern for losing any local ties upon leaving were among those who expressed a desire to leave NAS Lemoore. Results reinforce that high levels of embeddedness are related to decreased desires to turnover (Mitchell et al., 2001).

Additionally, Sailors demonstrated that the makeup of one's embeddedness level comes from a variety of elements (Mitchell et al., 2001; Lee et al., 2014). This research contributes to the existing literature by emphasizing how social relationships are an integral part of evaluating job embeddedness. It is also one of the first studies to apply social network analysis to job embeddedness theory in the military industry, suggesting strong consideration be given to the uniqueness of each Sailors' social network and how that may be related to turnover decisions according to job embeddedness elements.

C. RECOMMENDATIONS

Based on this preliminary research, there are a few recommendations for improving job embeddedness at NAS Lemoore by better supporting Sailors in building and maintaining their social relationship networks. Not all these recommendations will translate to immediate high levels of embeddedness for all Sailors; however, these recommendations may improve the overall experience at NAS Lemoore for the Sailors and their families.

First, empower ground-level leaders. Several Sailors perceived the workload at NAS Lemoore to be unjustly higher than their experiences elsewhere. There may be opportunities to better distribute the workload and schedule Sailors more efficiently. Push work scheduling responsibilities to work centers and allow work centers to offer flexible work schedules so that Sailors can better manage their work and personal commitments. Encourage creative solutions for the shortcomings associated with food options on base,

especially on the Operations side. Generate buy-in at the Sailor level for a more sustained solution long-term.

Next, recognize that transparency is a way to build trust. Sailors find themselves creating explanations when deficits in communication exist. This is unhealthy and leads to negative work climates. Identify and overcome barriers for communication throughout the base and throughout tenant commands. Again, involve Sailors at the ground levels to generate solutions for some of these challenges.

Understand that social networks differ among different Sailors and will differ as Sailors progress through different life stages. "What matters is helping employees develop the right network at the right time" (Cross, Opie, Pryor, & Rollag, 2018, p.116). Be flexible to supporting the needs of these Sailors differently, consistently. Again, empowering lower levels of leadership to take care of their people is one of the best ways to ensure Sailors are supported according to their needs.

Lastly, identify and exploit key work networks and those Sailors who are structurally embedded. Create informal mentorship opportunities. Create opportunities for sharing knowledge. Generate leadership opportunities that align with Sailors' goals giving Sailors something to work toward where they can see growth and development. Assign and rotate collateral duties fairly and openly. All these activities help grow a Sailor's network both in number and in variety.

Time is a valuable resource and there are always tradeoffs. These recommendations will require time. Take the time to invest in junior Sailors and their families now so they will proudly be there in the future.

D. FUTURE RESEARCH

Future research should include an array of items. First, according to Jo and Ellingson, "social interaction is as likely to involve destructive as is constructive behaviors" (2019, p. 258). The nature of the ties, to include content and frequency of communication, shall be considered in future studies. In the case of egonets, learning about

what occurs between Sailors and the individuals in their social network beyond the presence of a relationship adds another layer of understanding.

Next, additional focus group sessions among the enlisted aviation maintenance population should continue. The NAS job embeddedness model should be expanded to include additional characteristics for each of the elements—links, fit, and sacrifice. Adjustments and additions to the pre-focus group questionnaire and focus group protocol questions should result in a more thorough data set. For example, additional questions regarding a Sailor's desire to remain at NAS Lemoore should be added.

Also, egocentric network analysis should be expanded to include surveys and interviews of the Sailors' families, if residing locally in NAS Lemoore. This insight will help provide better context regarding felt family obligation, work-family conflict, and social support of the family.

Research tailored to encompass a unit, such as a squadron, will help to identify social networks beyond a central individual. This study can incorporate and expand on the POS and PSS elements strongly tied to the organization.

NAS Lemoore job embeddedness research can also expand to incorporate different populations of personnel assigned to NAS Lemoore. For instance, there are several personnel outside of the aviation component (e.g., administration, supply, information technology) to consider.

Additionally, research should explore the causal effects of social relationships within elements of job embeddedness on turnover. "Structural equation modelling" and "graphical modelling" are two approaches "to determine causal structures" (Robins, 2015, p. 219).

Finally, future research should integrate Lee et al.'s unfolding model and the modified NAS Lemoore job embeddedness model using a social network perspective. This research can use social network analysis to explore how Sailors respond to "shocks" (e.g., promotion, having a child, sexual assault) given different levels of job embeddedness.

APPENDIX A. ENLISTED PARTICIPANTS' RATING DESCRIPTIONS

Rating	Rating Description
AC	Navy Air Traffic Controllers [AC] perform duties equivalent to their civilian counterparts and play a key role in the effective use of Naval airpower throughout the world in operational and training environments. Navy ACs are responsible for safely and effectively conducting operations to and from airfields in normal and expeditionary environments, aircraft carriers, and amphibious ships by issuing flight instructions to pilots by radio. Standards in the AC rating are high as the career is demanding but highly rewarding. This is a five-year enlistment program.
AD	Aviation Machinist's Mates [AD] are aircraft engine mechanics. They inspect, adjust, test, repair and overhaul aircraft engines and propellers. ADs also perform routine maintenance, prepare aircraft for flight and assist in handling aircraft on the ground.
AE	Aviation Electronic, Electrical, and Computer Systems Technicians [AE] work with some of the most advanced electronics equipment in the world and repair a wide range of aircraft electrical and electronic systems. Repair jobs can range from trouble-shooting the computer-controlled weapon system on an F/A18 Hornet on the flight deck of an aircraft carrier to changing circuit cards or tracing electrical wiring diagrams in an air-conditioned shop. Most of these technicians are trained in computers to support state-of-the-art equipment or on power generators and power distribution systems to support aircraft electrical systems.
AM	The Aviation Structural Mechanic - Hydraulics (AM), maintains all aircraft main and auxiliary hydraulic power systems, actuating subsystems and landing gear. Responsible for maintenance on the aircraft fuselage (mainframe) wings airfoils, and associated fixed and moveable surfaces and flight controls. Aircrew volunteers from this rating perform in-flight duties in various types of aircraft.
AN (PACT)	Airman (AN) assist in the maintenance of aircraft and associated aeronautical equipment; assist in the maintenance of aircraft support equipment; service and clean aircraft; assist in aircraft handling; and perform other apprenticeship duties required in the operation of naval aviation activities afloat and ashore.
AO	Aviation Ordnancemen are aircraft armament (weapons) specialists in charge of storing, servicing, inspecting and handling of all types of weapons and ammunition carried on Navy aircraft.
AT	Aviation Electronic Technicians work with some of the most advanced electronics equipment in the world and repair a wide range of aircraft electrical and electronic systems. Repair jobs can range from trouble-shooting the computer-controlled weapon system on an F/A18 Hornet on the flight deck of an aircraft carrier to changing circuit cards or tracing electrical

	wiring diagrams in an air-conditioned shop. Most of these technicians are trained in computers to support state-of-the-art equipment or on power generators and power distribution systems to support aircraft electrical systems.
AZ	Aviation Maintenance Administrationmen (AZ) perform a variety of clerical, administrative, and managerial duties necessary to keep aircraft maintenance activities running efficiently. The rating requires close communication with all other aviation maintenance ratings.
LS	Logistics Specialist receive basic training in supply and postal related surface and aviation logistics functions. Logistics Specialists are responsible for providing exceptional customer service, operating financial accounting systems, managing inventories of repair parts and general supplies that support ships, squadrons and shore-based activities to include the Military Postal System.
PR	Aircrew Survival Equipmentmen (PR) are responsible for keeping parachutes, life rafts, personal flight gear and other aviation survival gear in proper working condition.
YN	Yeoman perform administrative and clerical work. They receive visitors, answer telephone calls and sort incoming mail. They type, organize files and operate modern office equipment such as word processing computers and copying machines.

Source: Adapted from Navy Personnel Command [NPC] (2020).

APPENDIX B. RECRUITMENT FLYER

WANT TO DISCUSS YOUR EXPERIENCE AT NAS LEMOORE?

The Navy is interested in how social relationships affect assignment decisions among enlisted personnel. Your participation will contribute to this Naval Postgraduate School (NPS) research.

Participation is voluntary – come make a difference!

Sign up at:
https://www.signupgenius.com/go/NASLemoore

Access Code: NPS2019

WHEN:
DEC. 5 & 6

WHERE:
AIR OPS Conference Room (141-C)

WHAT:
Focus Group

- Voluntary
- Aliases, not names
- Lasting up to one hour

QUESTIONS? CONTACT:

Primary Investigator:
Dr. Gail Thomas
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NPS Institutional Review Board Chair:
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NPS Focus Group Leader:
Autumn Gorden
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APPENDIX C. NAS LEMOORE ENLISTED PRE-FOCUS GROUP QUESTIONNAIRE

Welcome

Thank you for taking time to complete this questionnaire as part of this research project. Before we begin, we'd like to ask you a few questions.

List an alias to use to identify yourself during the focus group session: _____

Demographic Questions:

1. Total years of service: (circle one) >1 1-2 3-4 5-6 7-8 9-10 11+

2. Length of time stationed at NAS Lemoore: >1 1-2 3-4 5-6 7-8 9-10 11+

3. Where were you stationed (base) before coming to Lemoore? _____

3. Marital status: (circle one) Single Married

4. Current number of dependent children: (circle one) None 1 2 3 or more

5. Rate: (circle one) AC AD AE AM AME AO AS AT AZ Other

Indicate rate if "Other" is circled in above question: _____

6. Rank: (circle one) E1/E2/E3 E4 E5 E6 E7 E8 E9

7. Gender: (circle one) Male Female

8. Home of record and/or hometown: _____

9. How long have you been stationed at NAS Lemoore?

10. Please rank the following factors in order of importance when considering NAS Lemoore as a duty station. Rank 1, 2, 3, 4 where 1=most important factor for considering NAS Lemoore as a duty station.

_____ Job

_____ Family/Friends

_____ Location

_____ Other _____

Social Relationship Questions. Consider the possible social relationships:

- Work relationships: direct supervisor, squadron (or unit) leadership, direct peers/co-workers (in-rate), other peers/co-workers (not in-rate), collateral duty holders, mentors, coaches
- Personal relationships: family (spouse, children (grandchildren), parents (grandparents), siblings, cousins, etc.), extended family, friends, acquaintances, enemies

Please use the following table to list your 10–20 most important work and personal relationships. Only first names are necessary:

	Individual's First Name	**Work**	**Personal**	**Relationship**	**Location (city)**
1	Joe		x	spouse	
2	Mary	x		supervisor	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Highlight the top 5–10 people you spend the most time with outside of work hours.

Short-Answer Questions. Circle the answer that most applies to you.

I feel that the social relationships I've built at NAS Lemoore contribute highly to my satisfaction here.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

The tangible benefits (pay, health benefits, career advancement) are good for this job at NAS Lemoore.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

The social relationships I've built during my time at NAS Lemoore would be difficult to lose.

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

My family members in Lemoore are supportive of my assignment to NAS Lemoore. Circle N/A if not applicable. N/A

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

My family members outside of Lemoore are supportive of my assignment to NAS Lemoore. Circle N/A if not applicable. N/A

Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

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APPENDIX D. PROTOCOL FOR NAS LEMOORE ENLISTED FOCUS GROUPS

Welcome

Thank you for taking time to be involved in this focus group. We appreciate your willingness to participate in the study.

Introductions

I am Autumn Gorden. I am a Manpower Systems Analysis student at the Graduate School of Defense Management at Naval Postgraduate School. I am conducting this research for my thesis.

IRB

This research has been approved by an Institutional Review Board. Participation is voluntary and data is collected in a manner to preserve anonymity.

Consent Forms

To start, we'll collect consent forms and pre-focus group questionnaire forms.

Please indicate on your provided name tag the alias of your choice (same as the questionnaire).

Purpose of Focus Group

We are interested in learning more about the ways that social connections are developed and maintained by sailors in the Navy. We are going to ask questions about your experiences and social and work relationships. Your responses will help the Navy gain insight into how social connections impact your assignment here at NAS Lemoore.

(For Student Researcher) The purpose of this focus group is to explore social relationship factors (psychological, behavioral, structural) that impact assignment (or reassignment) to NAS Lemoore.

- *Psychological – what you think and feel about the interactions*
- *Behavioral – the type of actions and responses from one member to another member or group*
- *Structural – categorizing the nature and position of the relationship in the organization*

"The nature of a social relationship is affected by what takes place between social actors (i.e., behavior) and by what each actor thinks and feels during the interaction (i.e., psychological);" "each interpersonal relationship is in fact nearly always embedded in a social group" (i.e., structural) (Jo & Ellingson, 2019, p. 249).

Group Rules

1. *We want you to do the talking.* We would like everyone to participate. In some instances, we may go around the room to ensure we get feedback from everyone.
2. *There are no right or wrong answers.* Everyone's experiences and opinions are important. Speak up whether you agree or disagree, but please be respectful of one another.
3. *What is discussed in this room stays here.* We want everyone to feel comfortable sharing throughout the focus group. Please keep confidential who is participating in the study and any conversations that take place in this room.
4. *We will be recording the focus group.* We want to capture everything you have to say. Your responses here will not be identifiable in any way in our report, and you will remain anonymous. (Fowler, 2017, p. 93)

Questions

As we mentioned at the start of the focus group, we are interested in learning more about your social connections and your experience being stationed here at NAS Lemoore.

Thank you for taking time to complete the pre-focus group questionnaire. We're going to use that questionnaire to kick this off. Let's go around the room for this first question. Be sure to say your alias before you answer.

1. (Prior to arrival) From whom and what did you hear about Lemoore before you arrived? (someone currently stationed here, stationed here in the past, recruiter)

   List on flipchart what was mentioned (e.g. housing, things to do, better promotions, etc.) They to get full list of what was mentioned, positive/negative, etc.

2. (Expectations vs. experience) Since you arrived, how has your experience compared to what you heard?

   Same, better, worse?

Now let's talk more specifically about your experience **at** NAS Lemoore.

3. What new connections have you made since arriving here? Where and how were these connections made?
   a. How does this compare to other duty stations?
   b. How does this compare to what you thought it would be?

Now let's a little about how you like to spend your time outside of work and with whom. *List on flipchart*

4. **Who** do you interact with outside of work? What kind of **activities**? (working out, socializing) **Ways** that you interact? (phone, social media, church, gym)

5. Who are the people you consider part of your **support network**?
   a. For example, who helps you think through life problems or challenging situations?
   b. How do they provide you support?
   c. How does being assigned to Lemoore make that easier or harder?

6. If you indicated you have family here with you, what kinds of connections have they made here?

7. Who and what would you consider if **reassignment** to NAS Lemoore was a possibility?
   a. Who and what would make you decide to stay?
   b. Who and what would make you decide to leave?

8. What connections do you value the most at NAS Lemoore? The least? Why? *OPTIONAL*

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